Comprehensive Everglades Restoration Plan

Annual Report

Pursuant to Section 373.470(7), Florida Statutes

prepared by

South Florida Water Management District

Florida Department of Environmental Protection

January 2004

for the period of

October 1, 2002 through September 30, 2003

EXECUTIVE SUMMARY

The Comprehensive Everglades Restoration Plan (CERP) is the framework and guide for the restoration, protection and preservation of the South Florida ecosystem. The goal of the CERP is to restore the quantity, quality, timing and distribution of water to the Everglades ecosystem. The CERP also provides for other water-related needs of the region such as water supply and flood protection. The CERP includes over fifty projects that involve either structural or operational changes to modify the Central and Southern Florida Project to achieve the goal. The plan received federal authorization in Section 601 of the Water Resources Development Act of 2000 (Public Law 106-541).

This report is submitted to the Governor, the President of the Senate and the Speaker of the House of Representatives as required by Section 373.470(7), Florida Statutes. This report is available to the public on the South Florida Water Management's web site (http://www.sfwmd.gov). The report contains financial information from the period of October 1, 2002 through September 30, 2003.

In Part (A), the South Florida Water Management District (SFWMD) and the Florida Department of Environmental Protection (FDEP) jointly identify funding sources and amounts, itemize Fiscal Year 2003 expenditures and fund balances, and provide a schedule of anticipated expenditures for Fiscal Year 2004. In Fiscal Year 2003, the total CERP revenues were $374,891,452 and the total CERP expenditures were $219,113,892. The anticipated expenditures for Fiscal Year 2004 are $300,212,956.

In Part (B), the FDEP provides a detailed report on all funds appropriated and expended by the state on current land acquisition projects related to the CERP. Final credit toward the non-federal share of funding will be determined in each project cooperative agreement. The unencumbered balance as of September 30, 2003 was $206,666,731.

In Part (C), the SFWMD and FDEP provide a report on progress made in the implementation of the CERP. During Fiscal Year 2003, 16,118 acres of land designated for use by CERP projects were acquired. This brings the total lands available for use for CERP projects to 205,179 acres, which is over 50 percent of the estimated land needed for CERP implementation. Detailed planning and preliminary design is in progress for six pilot projects plus a regional study, three feasibility studies and a number of construction projects. In addition, implementation has continued for seven critical restoration projects that commenced prior to the authorization of the CERP.

TABLE OF CONTENTS

SUMMARY AND HIGHLIGHTS 1

HISTORY 2

OVERVIEW OF THE CERP PROCESS 3

CERP 470 REPORT 5

PART (a) FUNDS - SFWMD AND FDEP 6

BACKGROUND 6

BASIS OF PRESENTATION 6

PART (b) FUNDS – FDEP 13

BACKGROUND 13

BASIS OF PRESENTATION 13

PART (c) IMPLEMENTATION STATUS 15

STATUS OF LAND ACQUISITION 15

STATUS OF PROGRAM-LEVEL ACTIVITIES 17

STATUS OF PROJECT-LEVEL ACTIVITIES 19

Pilot Projects 20

Feasibility Studies 22

Critical Projects 25

Other SFWMD CERP Projects 28

Other CERP Projects (Non-SFWMD Projects) 37

LITERATURE CITED 39

APPENDIX A:

DESCRIPTION OF PROJECTS AND SEPARABLE ELEMENTS A-1

APPENDIX B:

CERP IMPLEMENTATION SCHEDULE B-1

CONTRIBUTORS

DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Sheryl Jones

Greg Knecht

Ray Linch

John Outland

Lynda Watson

SOUTH FLORIDA WATER MANAGEMENT DISTRICT:

James Carnes

Dolores Cwalino

Victor Lopez

Pam Roth

E. Elizabeth Williams

SUMMARY AND HIGHLIGHTS

The Comprehensive Everglades Restoration Plan (CERP) is the framework and guide for the restoration, protection and preservation of the Greater Everglades ecosystem. The CERP also provides for other water-related needs of the region, such as water supply and flood protection. The plan was authorized by Section 601 of the Water Resources Development Act of 2000 (WRDA 2000, Public Law 106-541), which requires that the CERP be integrated with existing federal and state activities in accordance with Section 528 of the WRDA 1996 (Public Law 104-303).

The goal of the CERP is to restore the quantity, quality, timing and distribution of water to the Everglades ecosystem. The CERP includes over 50 projects that involve either structural or operational changes to modify the Central and Southern Florida (C&SF) Project to achieve these goals. The South Florida Water Management District (SFWMD) is the local sponsor for implementation of most, but not all, of the projects in the CERP.

Given the scale and complexity of the CERP, the effects of its implementation on ecosystem restoration may not be apparent for many years. A number of projects must be implemented before the hydrologic improvements necessary for ecosystem restoration can begin. The timing and distribution of water by the C&SF Project can be altered only after water storage capacity has been increased, along with any necessary water quality improvements. As each of the components to improve the timing and distribution of water are completed, the ecosystem should begin recovering.

Section 373.470(7), Florida Statutes, requires the submission of a single CERP Annual Report from the SFWMD and the Florida Department of Environmental Protection (FDEP). This report includes CERP financial information and the progress of CERP implementation. The financial information from the period of October 1, 2002 through September 30, 2003 is reported.

At this stage of CERP implementation, the SFWMD and the United States Army Corps of Engineers (USACE) are acquiring land, developing and administering programs conducting pilot projects and feasibility studies, and developing project and program management plans and project implementation reports. Several critical restoration projects begun prior to the authorization of the CERP have been incorporated into the plan, and some are under construction.

During Fiscal Year 2003, 16,118 acres of land were acquired that are suitable for use by CERP projects. The SFWMD acquired land for a number of CERP projects, including Indian River Lagoon – South, North Palm Beach County – Part 1 and Broward County Water Preserve Area.

Over the past three years, program management plans were developed for six of the eight major efforts which comprise the program-level activities for the CERP. Plans are now in place for Program Controls, Geodetic Vertical Control Surveys, Restoration Coordination and Verification (RECOVER), Public Outreach, Environmental and Economic Equity and Data Management. Program management plans are under development for Recreation and for the Interagency Modeling Center. The Master Program Management Plan and the RECOVER Program Management Plan are currently being updated.

The SFWMD and the USACE are performing detailed planning and design of CERP projects in accordance with the most recent implementation schedule. The current approved version of the Master Implementation Schedule (USACE and SFWMD, 2001e) was published in July 2001, and it is expected to be revised in early 2004. The revised schedule will incorporate changes based on new state and federal legislation, reduced technical uncertainties, and clarified relationships between external milestones and specific CERP projects. Further, the Programmatic Regulations, which are required by WRDA 2000,

must be included in the second revision of the Master Implementation Schedule, as they will provide the blueprint by which CERP will be implemented. The Programmatic Regulations are slated to be published in the Federal Register in November 2003.

CERP includes several pilot projects and feasibility studies. The purpose of the pilot projects is to resolve technical uncertainties related to the use of various technologies to accomplish the modifications necessary to restore the South Florida ecosystem. The feasibility studies are designed to determine the need for additional projects to accomplish restoration goals that have been established for a particular region.

Detailed planning and preliminary design is in progress for six pilot projects plus a regional study, three feasibility studies and a number of construction projects. In addition, implementation has continued for seven critical restoration projects that commenced prior to the authorization of the CERP.

More information is available on-line at the official CERP web site [www.evergladesplan.org]. This website provides current information on all aspects of CERP implementation, including: information and history of the CERP; latest news, events and public meetings for CERP; resources and educational information about CERP; and in-depth information about the programs, projects and studies that comprise CERP implementation.

HISTORY

The Central and Southern Florida (C&SF) Project was authorized by Congress in 1948 to provide flood control, water supply, prevention of saltwater intrusion, and protection of fish and wildlife resources. The project design was based on forecasts that significantly underestimated the intensity of land uses and future population growth in Central and South Florida. The demands on the system's flood protection and water supply capabilities are now much greater than initially anticipated. In addition, South Florida's natural systems have been degraded by the intensity of land use and water management practices.

A process referred to as the Restudy began in 1994 to reexamine and determine the feasibility of modifying the C&SF Project to achieve updated goals. During the Restudy, a multi-agency, multi-disciplinary team formulated and evaluated alternative comprehensive plans based on computer simulations, field observations and professional judgement.

In 1999, a comprehensive plan was laid out in the Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement (USACE and SFWMD, 1999).

The plan was approved with the signing of the Water Resources Development Act of 2000 (WRDA 2000). WRDA 2000 recognized the comprehensive plan, now referred to as the Comprehensive Everglades Restoration Plan (CERP), as the framework for modifications to the C&SF Project, and requires that implementation be integrated with existing federal and state activities in accordance with WRDA 1996.

OVERVIEW OF THE CERP PROCESS

The overarching purpose of the CERP is the restoration, protection and preservation of the South Florida ecosystem. It also provides for other water-related needs of the region, such as water supply and maintenance of flood protection.

Four interrelated factors essential to the restoration effort are the quantity, quality, timing and distribution of water. To restore the timing and distribution of water, the available quantity of water must first be increased. Also, to prevent further damage to and allow restoration of the system, the quality of the water must be improved, where necessary, prior to its distribution.

Implementation of the CERP includes 68 major components, which are grouped into over 40 projects representing hundreds of features. Many of these projects are interrelated and will perform optimally only when other projects are implemented. A list of these projects is provided in Appendix A**.**

Even prior to implementing projects that will store water and improve water quality, numerous tasks must be accomplished. These include determining the feasibility of using new technologies, defining the optimum timing and distribution of water, developing supporting programs, acquiring the land necessary for the projects, and producing detailed project designs. Further, a process must be in place to monitor the plan's progress and success and to modify the plan where adjustments and improvements are necessary.

The Restudy recommended the use of several technologies to accomplish the alterations that are necessary to restore the South Florida ecosystem. Pilot projects will be conducted to determine the feasibility of using each of these technologies. Some of the technologies being proposed, such as Aquifer Storage and Recovery (ASR) and seepage control, while currently in use in Florida, have never been implemented on the large scale envisioned in the CERP.

The optimum timing and distribution of water within the natural Everglades ecosystem must be refined. By reviewing historical data, a picture has been developed regarding how the natural system behaved prior to human intervention; however, detailed information is lacking for many areas. In some cases, it is neither practical nor possible to restore the system to its historical condition. Also, existing animal and plant populations have adapted in some degree to the altered ecosystem and must be monitored closely to ensure that the restoration effort does not cause long-term negative impacts to the populations.

New programs and processes are being developed to support the restoration effort. Support is needed to manage the budget, manage data, conduct land surveys, collect supporting data, communicate with the public, ensure environmental equity, preserve and enhance recreation, monitor the restoration effort's progress, and update the plan when necessary. Some of these functions may be conducted within existing programs, but the majority will be performed by programs developed specifically for the CERP.

Due to the scale and complexity of the CERP, the effects of its implementation on ecosystem restoration may not be apparent for many years. Many projects must first be implemented before the hydrologic improvements necessary for ecosystem restoration can be made. The timing and distribution of water by the C&SF Project can be altered only after water storage capacity has been increased, along with any necessary water quality improvements. As the components to improve the timing and distribution of water are completed, the ecosystem should begin recovering.

DESIGN AGREEMENT

The Design Agreement (USACE and SFWMD, 2000a) executed between the SFWMD and the USACE in May 2000 covers activities related to planning, engineering and design of CERP implementation. The agreement establishes the method to calculate 50/50 cost sharing between the SFWMD and the USACE for all projects in which the SFWMD is the local sponsor. The Design Agreement requirements include the development of a Master Program Management Plan, the establishment of a design coordination team, and the development of management plans for each of the projects covered by the agreement.

Master Program Management Plan

Pursuant to the Design Agreement, the Master Program Management Plan (USACE and SFWMD, 2000b) was developed to describe the framework and process to be used by the USACE and the SFWMD in managing and monitoring implementation of the CERP. This document provides the agencies with a common understanding of the business processes and protocols to be applied, and includes descriptions and cost estimates for design work, performance schedules with deadlines, a schedule for planning and implementing program-level and project activities, and a budget.

The initial CERP Master Program Management Plan was completed in August 2000. The master plan specified completion of program management plans for several program-level activities. These efforts involve or affect a number of projects or the entire restoration program. Eight major efforts now comprise the program-level activities for the CERP; they are: Program Controls, Geodetic Vertical Control Surveys, RECOVER, Public Outreach, Environmental and Economic Equity, Data Management, Recreation and the Interagency Modeling Center. The status of these activities is discussed later in this chapter.

The Recreation and Interagency Modeling Center program-level activities were not included in the original master plan, but will be added in the Master Program Management Plan update, which commenced during Fiscal Year 2003. The update will delete a number of appendices, which have been incorporated into various CERP Guidance Memoranda. Project names and descriptions will be modified for consistency in the update. Revised descriptions of some program-level activities, specifically RECOVER and Environmental and Economic Equity will also be included in the update. Update requirements will be revised to indicate annual revisions for both Volumes I and II of the Master Program Management Plan. The update is scheduled to be completed in December 2003.

Project-Level Activities

Project-level activities conducted under the Design Agreement include planning, engineering, design and project management efforts specific to individual projects. Each project has a Project Delivery Team (PDT) that is responsible for these activities.

The first step a PDT undertakes is the development of a Project Management Plan (PMP). A PMP is prepared for each project to provide a detailed description of the scope, activities, tasks, schedule, cost estimates and agency responsibilities for the project.

Once the PMP has been completed and approved, a Project Implementation Report (PIR) is developed. The purpose of the PIR is to conduct additional project formulation and evaluation and provide more detailed engineering and design. During this process, both structural and non-structural alternative plans are evaluated for economic, environmental and engineering effectiveness. Criteria for

site suitability are established and a siting analysis is conducted. The PIR then will serve as the authorization document for the project.

When necessary, a Design Documentation Report (DDR) is produced. A DDR provides the technical basis for a project's plans and specifications and serves as a summary of all PDT engineering and design decisions made during project development and implementation. The DDR covers the period from pre-construction engineering through project completion. Plans and specifications will then be prepared for construction of the project.

The status the implementation of CERP projects is discussed later in this section. Pilot projects, feasibility studies, critical restoration projects and other CERP efforts also are addressed.

Design Coordination Team

The Design Coordination Team generally oversees design-related issues and ensures that the USACE and the SFWMD agree on both the design work that will be performed and the scheduling and costs for the work. The Design Coordination Team is responsible for reviewing design plans, schedules and budgets; work products, such as PMPs, PIRs, DDRs; construction plans and specifications; proposed updates of the Master Program Management Plan; land acquisition and relocation requirements; contract scopes of work, modifications, and costs; cost projections; anticipated requirements for the operation and maintenance of projects; and RECOVER activities.

CERP 470 REPORT

Section 373.470(7), Florida Statutes, requires the SFWMD and the FDEP to submit by January 31 of each year a single CERP Annual Report to the governor, the president of the Senate, and the speaker of the House of Representatives. The report's purpose is to "provide enhanced oversight of and accountability for the financial commitments established under this section (Everglades Restoration) and the progress made in the implementation of the comprehensive plan." The statute also requires that this report be made available to the public. The SFWMD and FDEP have fulfilled this mandate by producing this report, referred to as the CERP Annual 470 Report.

The CERP Annual 470 Report is divided into three parts based on the portion of the statute that each is fulfilling.

- In Part (A), the SFWMD and FDEP jointly identify funding sources and amounts, itemize Fiscal Year 2003 expenditures and fund balances, and provide a schedule of anticipated expenditures for Fiscal Year 2004.
- In Part (B), the FDEP provides a detailed report on all funds appropriated and expended by the state on current projects related to the CERP. Final credit toward the non-federal share of funding will be determined in each project cooperative agreement.
- In Part (C), the SFWMD and the FDEP are required to provide a detailed report on progress made in the implementation of the CERP, including the status of all projects initiated after the effective date of the Everglades Restoration Investment Act (Section 373,470, Florida Statutes).

PART (A) FUNDS – SFWMD AND FDEP

BACKGROUND

Pursuant to Section 373.470(7)(a), F.S., Part (A) contains information on revenues (**Table 1**), expenditures (**Table 2**), unencumbered balance of funds remaining in trust funds or other accounts (**Table 3**), and anticipated expenditures for the next fiscal year (**Table 4**) as they relate to implementation of the CERP. Only revenues, expenditures, and unencumbered balances dedicated to the CERP are included within this report. The purposes for which funds were expended are provided in **Appendix A**. The financial information contained in this annual report is for the period of October 1, 2002 through September 30, 2003. This period is the SFWMD's 2003 Fiscal Year. This information is not yet audited. The audit should be completed during the second quarter of Fiscal Year 2004 and any changes will be reflected in the SFWMD'S Comprehensive Annual Financial Report and future CERP Annual Reports. No federal revenues or expenditures are reflected in these schedules.

The SFWMD will be funding its share of the CERP with revenues from several sources. Ad valorem taxes and state appropriations comprise the largest portion of these revenues. Other sources include, but are not limited to, investment earnings on available cash balances, contributions from local governments, mitigation revenues, Florida Forever program funds, Preservation 2000 Trust funds, and grants.

BASIS OF PRESENTATION

Both the SFWMD's and FDEP's accounting policies conform to generally accepted accounting principles for state and local governments and are structured in accordance with the requirements of the Government Accounting Standards Board. These principles require the use of fund accounting. A fund is a separate fiscal and accounting entity having a self-balancing set of accounts. Fund accounting is designed to segregate transactions related to certain functions or activities to ensure resources are applied to finance the activities and objectives for which the resources are received, and to demonstrate compliance with legal and contractual obligations.

Table 1. CERP revenues - October 1, 2002 through September 30, 2003

Source	SFWMD [1]	FDEP	Other Local Sponsors	Total
Save Our Everglades Trust Fund				
Preservation 2000 Trust Fund		200,000,000		200,000,000
Florida Forever Trust Fund [2]		25,000,000		25,000,000
Investment Earnings		2,649,095		2,649,095
Save Our Everglades – Total		227,649,095		227,649,095
Ad Valorem	75,608,340			75,608,340
Investment Earnings	1,941,368			1,941,368
Conservation and Recreation Lands Trust Fund		40,466		40,466
Florida Preservation 2000 Trust Fund		13,200		13,200
Other Local Agencies [3]	2,754,018			2,754,018
Florida Forever Trust Fund		9,677,567		9,677,567
Water Management Lands Trust Fund	102,082			102,082
P2000 / Division of State Lands	3,177,146			3,177,146
Florida Forever Trust Fund	5,940,117			5,940,117

USDA – NRCS [4]	10,147,899			10,147,899
Transfers In [5]	5,720,329			5,720,329
Other Income [6]	1,972,138		207,351	2,179,489
Earmarked for Future Reimbursement from the State's Save Our Everglades Trust Fund [7]	29,940,336			29,940,336
TOTAL REVENUES	**137,303,773**	**237,380,328**	**207,351**	**374,891,452**

[1] This information is being presented prior to the completion of the SFWMD annual audit. Any changes will be reflected in subsequent annual reports.

[2] Pursuant to Section 259.105, F.S., $25,000,000 of the proceeds from each of the first two series of Florida Forever Bonds is to be deposited into the Save Our Everglades Trust Fund. The first series was issued on June 12, 2001, and the first $25,000,000 was subsequently transferred into the Save Our Everglades Trust Fund. The second series was issued on November 13, 2002, and the $25,000,000 was also transferred into the Save Our Everglades Trust Fund to fund the CERP program.

[3] This represents Martin County's contribution to the acquisition of land for the Indian River Lagoon Project ($2,504,018), plus a contribution from St. Lucie County for the Ten Mile Creek project ($250,000).

[4] This represents funds received from the U.S. Department of Agriculture – Natural Resources Conservation Service for the sale of an easement on CERP land.

[5] This transfer was effected in fiscal year 2003 to correct a prior year entry.

[6] For the SFWMD, this represents program income from a variety of sources (sale of surplus property, lease revenue, etc.) The amount shown under "Other Local Sponsors" is an offset to fiscal year 2003 expenditures reported by Palm Beach County for the Winsburg Farms Wetlands Restoration Plan.

[7] This figure represents expenditures incurred or encumbered by the SFWMD for the acquisition of CERP land for which reimbursement will be requested from the State's Save Our Everglades Trust Fund in subsequent years.

Table 2. CERP expenditures - October 1, 2002 through September 30, 2003 [1]

Projects	SFWMD	FDEP	Total
Local Sponsor – South Florida Water Management District [2,3]			
Pilot Projects			
Lake Okeechobee ASR Pilot	616,535	-	616,535
Caloosahatchee (C-43) River ASR Pilot	286,838	-	286,838
Hillsboro ASR Pilot	178,241	-	178,241
ASR Regional Study	402,217	-	402,217
Lake Belt In-Ground Reservoir Technology Pilot	206,585	-	206,585
L-31N Seepage Management Pilot	379,583	-	379,583
Wastewater Reuse Technology Pilot	171,240	-	171,240
Kissimmee River and Lake Okeechobee Region			
Lake Okeechobee Watershed	1,276,605	-	1,276,605
Lake Istokpoga Regulation Schedule	4,628	-	4,628
Lake Okeechobee Aquifer Storage and Recovery	0	-	0
Caloosahatchee River Region			
C-43 Basin Storage Reservoir – Part 1	20,418,871	-	20,418,871
C-43 Basin Aquifer Storage and Recovery – Part 2	0	-	0
Caloosahatchee Backpumping with Stormwater Treatment	0	-	0
Upper East Coast Region			
Indian River Lagoon – South	28,323,802	7,084,554	35,408,356
Everglades Agricultural Area			
Everglades Agricultural Area Storage Reservoirs - Phase 1	1,612,878	-	1,612,878
Everglades Agricultural Area Storage Reservoirs - Phase 2	0	-	0
Big Cypress Region			
Big Cypress/L-28 Interceptor Modifications	0	-	0
Water Conservation Areas and Everglades Region			
Flow to NW & Central WCA 3A	7,202	-	7,202
WCA 3 Decomp and Sheetflow Enhancement - Part 1	394,302	-	394,302
WCA 3 Decomp and Sheetflow Enhancement - Part 2	0	-	0
Loxahatchee National Wildlife Refuge Internal Canal Structures	66	-	66
Modify Holey Land Wildlife Management Area Operation Plan	0	-	0
Modify Rotenberger Wildlife Management Area Operation Plan	0	-	0

Projects	SFWMD	FDEP	Total
Lower East Coast Region			
North Palm Beach County - Part 1	2,112,490	45,078,908	47,191,398
North Palm Beach County - Part 2	0	-	0
ACME Basin B Discharge	137,355	-	137,355
Strazzula Wetlands	40,854	-	40,854
Site 1 Impoundment	130,068	-	130,068
Broward County WPA	10,521,282	42,116,014	52,637,296
Dade-Broward Levee and Canal	18,213	-	18,213
Bird Drive Recharge Area	6,243,654	830,074	7,073,728
PBC Agriculture Reserve Reservoir	47,126	1,130,237	1,177,363
PBC Agriculture Reserve Aquifer Storage and Recovery	0	-	0
Hillsboro Aquifer Storage and Recovery – Part 2	27	-	27
Diverting WCA Flows to CLB to Downstream Natural Areas	979	-	979
Broward Co. Secondary Canal System	19,985	-	19,985
North Lake Belt Storage Area	22,545	-	22,545
Central Lake Belt Storage Area	414,438	-	414,438
Everglades National Park Seepage Management	0	-	0
Biscayne Bay Coastal Wetlands	3,603,636	-	3,603,636
C-111 Spreader Canal	382,509	-	382,509
Southwestern Florida Region			
Southern Golden Gate Estates Hydrologic Restoration	1,305,633	8,952,133	10,257,766
Florida Bay and Florida Keys Region			
Florida Keys Tidal Restoration	81,779	-	81,779
Critical Restoration Projects			
Ten Mile Creek	1,875,143	-	1,875,143
Western Tamiami Trail Culverts	2,777,148	-	2,777,148
Western C-4 Water Control Structure	360,695	-	360,695
Southern CREW / Imperial River Flowway	3,856,834	-	3,856,834
Lake Trafford Restoration	41,264	-	41,264
Lake Okeechobee Water Retention/Phosphorus Removal	1,231,326	-	1,231,326
Western C-11 Water Quality Improvement	858,325	-	858,325
Critical Restoration Program Controls	25,997	-	25,997
Reconnaissance, Feasibility, and Planning Studies			
Southwest Florida Feasibility Study	823,157	-	823,157
Florida Bay and Florida Keys Feasibility Study	574,186	-	574,186
Indian River Lagoon Feasibility Study	9,008	-	9,008
Water Preserve Areas Feasibility Study	0	-	0
Monitoring and Evaluation			
RECOVER	2,605,922	-	2,605,922
Adaptive Assessment and Monitoring	3,429,841	-	3,429,841
Program Management & Support			
Program Management	9,986,509	-	9,986,509
Geodetic Vertical Control Surveys	108,494	-	108,494
Program Controls	1,550,398	-	1,550,398
Public Outreach	376,578	-	376,578
Environmental and Economic Equity	79,939	-	79,939
Data Management	3,506,911	-	3,506,911
Interagency Modeling Center	274,780	-	274,780
Programmatic Regulations	0	-	0
Local Sponsors Other than South Florida Water Management District [4]			
Comprehensive Integrated Water Quality Feasibility Study (FDEP)			n/a
Biscayne Bay Feasibility Study (Miami-Dade DERM)			n/a
Seminole Tribe Big Cypress Reservation Water Conservation Plan (Seminole Tribe)			n/a
Henderson Creek/Belle Meade Restoration (FDEP)			n/a
Lakes Park Restoration (Lee County)			n/a
Melaleuca Eradication and Other Exotic Plants (USDA)			n/a
Winsburg Farms Wetlands Restoration (Palm Beach County)			207,351
Miccosukee Water Management Plan (Missosukee Tribe)			n/a

Projects	SFWMD	FDEP	Total
Restoration of Pineland and Hardwood Hammocks in C-111 Basin (Miami-Dade County)			n/a
West Miami-Dade Reuse (Miami-Dade County)			n/a
South Miami-Dade Reuse (Miami-Dade County)			n/a
TOTALS [5]	**113,714,621**	**105,191,920**	**219,113,892**

[1] Federal expenditures are not listed in **Table 2**, above.
[2] Expenditures include indirect costs that are charged to the program by applying a federally approved rate to direct salaries. Further, the expenditures shown in **Table 2** reflect project costs which will be submitted to the U.S. Army Corps of Engineers for in-kind credit.
[3] This information is being presented prior to the completion of the SFWMD annual audit; and any changes will be reflected in subsequent annual reports.
[4] Expenditures for local sponsors other than the SFWMD are presented in the "Total" column only. An "n/a" indicates that the information is not available.
[5] The SFWMD figure includes $6,659,818 in expenditures incurred by the SFWMD for acquisition of CERP land for which reimbursement will be requested from the State's Save Our Everglades Trust Fund in a subsequent year

Table 3. CERP unencumbered fund balance for the period of October 1, 2002 through September 30, 2003

	SFWMD [1]	FDEP	Other Local Sponsors	Total
Fund Balance as of September 30, 2002 [2]	104,821,913	74,478,323	n/a	179,300,236
Add Revenues [3]	137,303,773	237,380,328	207,351	374,891,452
Less: Expenditures [4]	(113,714,621)	(105,191,920)	(207,351)	(219,113,892)
Transfers Out [5]	(5,788,440)			(5,788,440)
Adjustments [6]	(981,926)			(981,926)
Total Funds Available as of September 30, 2003	121,640,699	206,666,731	n/a	328,307,430
Less: Encumberances [7,8]	(62,266,464)	0	n/a	(62,266,464)
Unencumbered Balance as of September 30, 2003	59,374,235	206,666,731	n/a	266,040,966

[1] This information is being presented prior to the completion of the SFWMD annual audit. Any changes will be reflected in subsequent annual reports.
[2] Ending fund balances for SFWMD in last year's report ($100,804,874) were $4,017,039 less than beginning fund balances in this year's report ($104,821,913) due to the reclassification of additional funds for CERP.
[3] SFWMD revenues include $29,940,336 in expected reimbursements from the State's Save Our Everglades Trust Fund for expenditures incurred or encumbered by the SFWMD.
[4] This figure includes $6,659,818 in expenditures incurred by the SFWMD for the acquisition fo CERP land for which reimbursement will be requested from the State's Save Our Everglades Trust Fund in subsequent years.
[5] This transfer was effected to correct prior year entries.
[6] Difference reflects the use of funds for certain prior year commitments for non-CERP activities and the use of calculated fringe benefit rates for federal credit purposes.
[7] Under the encumbrance method of accounting, commitments for the expenditure of resources are recorded in order to reserve that portion of the applicable budgetary appropriation. All unencumbered appropriations lapse at year end. Encumbrances representing uncompleted contracts and purchase orders are recorded as a reservation of fund balance at year end and reappropriated in the ensuing year's budget.
[8] This figure includes $23,280,518 in encumbrances incurred by the SFWMD for the acquisition of CERP land for which reimbursement will be requested from the State's Save Our Everglades Trust Fund in subsequent years.

Table 4. CERP anticipated expenditures for the next fiscal year - October 1, 2003 to September 30, 2004 [1] [2]

Projects	Total Anticipated Expenses
Local Sponsor – South Florida Water Management District	
Pilot Projects	
Lake Okeechobee ASR Pilot	1,498,554
Caloosahatchee (C-43) River ASR Pilot	1,327,349
Hillsboro ASR Pilot	276,976
ASR Regional Study	2,315,338
Lake Belt In-Ground Reservoir Technology Pilot	373,753
L-31N Seepage Management Pilot	921,344
Wastewater Reuse Technology Pilot	277,899
Kissimmee River and Lake Okeechobee Region	
Lake Okeechobee Watershed	1,168,281
Lake Okeechobee Aquifer Storage and Recovery	0
Caloosahatchee River Region	
C-43 Basin Storage Reservoir – Part 1	1,045,650
C-43 Basin Aquifer Storage and Recovery – Part 2	0
Caloosahatchee Backpumping with Stormwater Treatment	0
Upper East Coast Region	
Indian River Lagoon – South	2,116,810
Everglades Agricultural Area	
Everglades Agricultural Area Storage Reservoirs – Phase 1	810,256
Everglades Agricultural Area Storage Reservoirs – Phase 2	0
Big Cypress Region	
Big Cypress/L-28 Interceptor Modifications	0
Water Conservation Areas and Everglades Region	
Flow to NW & Central WCA 3A	0
WCA 3 Decomp and Sheetflow Enhancement - Part 1	1,699,695
WCA 3 Decomp and Sheetflow Enhancement - Part 2	0
Loxahatchee National Wildlife Refuge Internal Canal Structures	9,144
Modify Holey Land Wildlife Management Area Operation Plan	0
Modify Rotenberger Wildlife Management Area Operation Plan	0
Lower East Coast Region	
North Palm Beach County - Part 1	42,121,847
North Palm Beach County - Part 2	0
ACME Basin B Discharge	501,049
Strazzula Wetlands	353,158
Site 1 Impoundment	400,221
Broward County WPA	686,897
C-4 Structure	90,119
Bird Drive Recharge Area	576,565
PBC Agriculture Reserve Reservoir – Part 1	29,085
PBC Agriculture Reserve Aquifer Storage & Recovery – Part 2	0
Hillsboro Aquifer Storage and Recovery – Part 2	0
Diverting WCA Flows to CLB to Downstream Natural Areas	24,182
Broward County Secondary Canal System	161,402
North Lake Belt Storage Area	0

Projects	Total Anticipated Expenses
Central Lake Belt Storage Area	0
Everglades National Park Seepage Management	0
Biscayne Bay Coastal Wetlands	25,622,577
C-111 Spreader Canal	706,500
Southwestern Florida Region	
Southern Golden Gate Estates Hydrologic Restoration	14,737,807
Florida Bay and Florida Keys Region	
Florida Keys Tidal Restoration	283,667
Critical Restorations	
Ten Mile Creek	3,288,009
Western Tamiami Trail Culvert	6,157,485
Western C-4 Water Control Structure	0
Southern Crew/Imperial River Floway	1,789,090
Lake Trafford Restoration	6,769,081
Lake Okeechobee Water Retention/Phosphorus Removal	705,161
Western C-11 Water Quality Improvement	1,899,921
Critical Restoration Program Controls	27,124
Reconnaissance, Feasibility, and Planning Studies	
Southwest Florida Feasibility Study	1,566,605
Florida Bay and Florida Keys Feasibility Study	1,665,124
Indian River Lagoon - South Feasibility Study	0
Water Preserve Areas Feasibility Study	0
Monitoring and Evaluation	
RECOVER	7,248,894
Adaptive, Assessment and Monitoring	
Land Aquisition and Project Support	
CERP Real Estate Acquisition and Support [3]	80,350,849
Project Level Support [4]	502,237
Program Management and Support	
Program Management	12,752,050
Geodetic Vertical Control Surveys	143,862
Program Controls	956,443
Public Outreach	1,345,707
Environmental and Economic Equity	338,067
Data Management	4,173,128
Interagency Modeling Center	634,364
Programmatic Regulations	
CERP Indirect Costs [5]	8,262,067
CERP Precursors	
North Palm Beach County Projects	273,927
C-111 Project Implementation	362,167
CERP Reserves	
Reserves	49,207,854
Local Sponsors Other than South Florida Water Management District	
Comprehensive Integrated Water Quality Feasibility Study (FDEP) [6]	425,000
Biscayne Bay Feasibility Study (Miami-Dade DERM)	NA
Seminole Tribe Big Cypress Reservation Water Conservation Plan (Seminole Tribe)	NA
Henderson Creek/Belle Meade Restoration (FDEP) [7]	0
Lakes Park Restoration (Lee County)	NA
Melaleuca Eradication and Other Exotic Plants (USDA)	NA
Winsburg Farms Wetlands Reuse (Palm Beach County) [8]	9,232,615

Projects	Total Anticipated Expenses
Miccosukee Water Management Plan (Miccosukee Tribe)	NA
Restoration of Pineland and Hardwood Hammocks in C-111 Basin (Miami-Dade County)	NA
West Miami-Dade Reuse (Miaimi-Dade County)	NA
South Miami-Dade Reuse (Miami-Dade County)	NA
TOTALS	**300,212,956**

[1] Management plans for projects and program-level activities may require adjustments in these estimates.
[2] No anticipated federal expenditures are listed in this table.
[3] Real Estate Acquisition and Support budget includes projected land acquisition costs for the entire program. As these costs are incurred, they will be charged to individual projects.
[4] CERP project support budget includes an estimate of project-level support activities. As these costs are incurred, they will be charged to individual projects.
[5] Represents the cost of District central service departments (e.g., accounting, budget, procurement, etc.) charged to the program by applying a federally-approved indirect rate to direct salaries. Also includes self-insurance charges.
[6] Anticipated expenses shown are contingent upon execution of Feasibility Cost Sharing Agreement with the USACE.
[7] Awaiting execution of Feasibility Cost Sharing Agreement with the USACE.
[8] Does not include the costs budgeted for the Interpretive (Nature) Center.

PART (B) FUNDS - FDEP

BACKGROUND

Pursuant to Section 373.470(7)(b), F.S., Part (B) of this report contains a detailed account of all funds expended by the state toward land acquisition for the CERP in Fiscal Year 2003 (**Table 5**). **Appendix A** includes a description of the purposes for which funds were expended. The unencumbered fiscal year-end balance that remains in each identified trust fund is also reported. Only revenues, expenditures and unencumbered balances dedicated to the CERP are included within this report.

Each component identified in the CERP will be described in detail in a project implementation report. A project cooperation agreement will be subsequently executed for that component or group of components (also referred to as a project). The amount of expenditures to be credited toward the state's share of funding for implementation of the CERP will be defined in the design and project cooperation agreements.

BASIS OF PRESENTATION

The FDEP's accounting policies conform to generally accepted accounting principles for state and local governmental units and are structured in accordance with the requirements of the Governmental Accounting Standards Board. These principles require the use of fund accounting. A fund is a separate fiscal and accounting entity having a self-balancing set of accounts. Fund accounting is designed to segregate transactions related to certain functions or activities to ensure resources are applied to finance the activities and objectives for which the resources are received and to demonstrate compliance with legal and contractual obligations.

The information in these special-purpose financial presentations relates to the general fund and to special revenue funds classified as a governmental fund type. Special revenue funds are used to account for specific revenue sources, which are legally restricted to expenditure for specified purposes.

Table 5. Revenues, expenditures and encumbrances by the state toward land acquisition for all CERP projects/separable elements - October 1, 2002 to September 30, 2003

	Save Our Everglades Trust Fund	Conservation & Recreation Lands Trust Fund	Preservation 2000 Trust Fund	Florida Forever Trust Fund	Totals
REVENUES – By Source of Funds					
Florida Preservation 2000 Trust Fund	200,000,000	0	13,200	0	200,013,200
Florida Forever Trust Fund [1]	25,000,000	0	0	9,677,567	34,677,567
Conservation & Recreation Lands Trust Fund	0	40,466	0	0	40,466
Interest Earnings	2,649,095	0	0	0	2,649,095
TOTAL REVENUES	227,649,095	40,466	13,200	9,677,567	237,380,328

	Save Our Everglades Trust Fund	Conservation & Recreation Lands Trust Fund	Preservation 2000 Trust Fund	Florida Forever Trust Fund	Totals
EXPENDITURES – By Project					
PBC Agriculture Reserve Reservoir – Part 1	1,130,237	0	0	0	1,130,237
Indian River Lagoon – South	7,084,554	0	0	0	7,084,554
Broward County WPA	41,336,914	0	0	779,100	42,116,014
North Palm Beach County – Part 1	45,078,908	0	0	0	45,078,908
Bird Drive Recharge Area	830,074	0	0	0	830,074
Southern Golden Gate Estates Restoration	0	40,466	13,200	8,898,467	8,952,133
TOTAL EXPENDITURES	95,460,687	40,466	13,200	9,677,567	105,191,920
ENCUMBRANCES	0	0	0	0	0
TOTAL ENCUMBRANCES	0	0	0	0	0
Excess of Revenues Over Expenditures and Encumbrances	132,188,408	0	0	0	132,188,408
Unencumbered Balance as of September 30,2002	74,478,323	0	0	0	74,478,323
Fund Balance Reserved for Encumbrances as of September 30, 2002	0	0	0	0	0
Unencumbered Balance as of September 30,2003	206,666,731	0	0	0	206,666,731

[1] Pursuant to Section 259.105, F.S., $25,000,000 of the proceeds from each of the first two series of Florida Forever Bonds was to be deposited into the Save Our Everglades Trust Fund. The first series was issued on June 12, 2001 and the first $25,000,000 was transferred into the Save Our Everglades Trust Fund. The second series was issued on November 13, 2002 and the $25,000,000 was also transferred into the Save Our Everglades Trust Fund.

PART (C) - IMPLEMENTATION STATUS

One portion of the statute, Section 373.470(7)(c), Florida Statutes, or Part (C), requires that the status of CERP implementation be reported annually along with the financial information. Currently, the USACE and SFWMD are acquiring land, developing and administering programs and preparing Project Management Plans and Project Implementation Reports relating to the implementation of the CERP. These activities are further discussed below.

STATUS OF LAND ACQUISITION

The SFWMD's land acquisition strategy for water resource management prioritizes the purchase of lands based on authorized project construction schedules, the availability of willing sellers, identification of lands threatened by development potential and recognition of lands in areas of rapidly escalating property values. This strategy promotes timely and cost effective acquisition of lands for Everglades restoration.

From October 1, 2002 through September 30, 2003 the SFWMD acquired 24,280 acres of land, of which 16,118 acres are designated for use by CERP projects. So, more than 66 percent of lands acquired during Fiscal Year 2003 were allocated for CERP to provide enhanced water quality, quantity, timing and distribution of water.

Key among the projects for which major SFWMD land acquisitions occurred during this period are:

- **Indian River Lagoon - South.** The 8,209 acres acquired for the Indian River Lagoon – South project will be used for the C-23 North Reservoir, C-23 South Reservoir and Allappatah Natural Storage and Water Quality Treatment Area.
- **North Palm Beach County - Part 1.** The 1,220 acres acquired for the North Palm Beach County – Part 1 project will be used for the C-51 and L-8 Reservoir .
- **Broward County Water Preserve Area (WPA).** The 321 acres acquired for the Broward County WPA project will be used for construction of the C-11 Impoundment, the C-9 Impoundment and the Water Conservation Area (WCA)-3A/3B Levee Seepage Management Area. Approximately 80 percent of the land for the Broward County WPA project has been acquired.
- **C-43 Basin Storage Reservoir – Part 1**. 3,354 were acquired for this project in the Lower West Coast region.

Additional SFWMD land acquisitions within the Water Preserve Areas (WPAs) included:

- **Central Lake Belt Storage – Part 1.** 31 acres were acquired for this project in the Miami-Dade County region.

The SFWMD continued its aggressive land acquisition program in the Lower East Coast, acquiring land for:

- **Biscayne Bay Coastal Wetlands.** 420 acres were acquired for this project in the Miami-Dade County region. This figure includes acres acquired by Miami-Dade County for the project.
- **Bird Drive Recharge Area.** 165 acres were acquired for this project C-4 Basin in the Miami-Dade County Region.

The lands acquired by the SFWMD during Fiscal Year 2003 increased the total lands available for use for CERP projects to 205,179 acres, which is 51 percent of the estimated land needed for CERP implementation projects. The general locations of the projects are presented in **Figure 1**.

The FDEP has acquired 53,359 acres in support of the Southern Golden Gates Estates Hydrologic Restoration project. While the SFWMD is the local sponsor for the project, the FDEP has been conducting the land acquisition under an existing, pre-CERP acquisition program

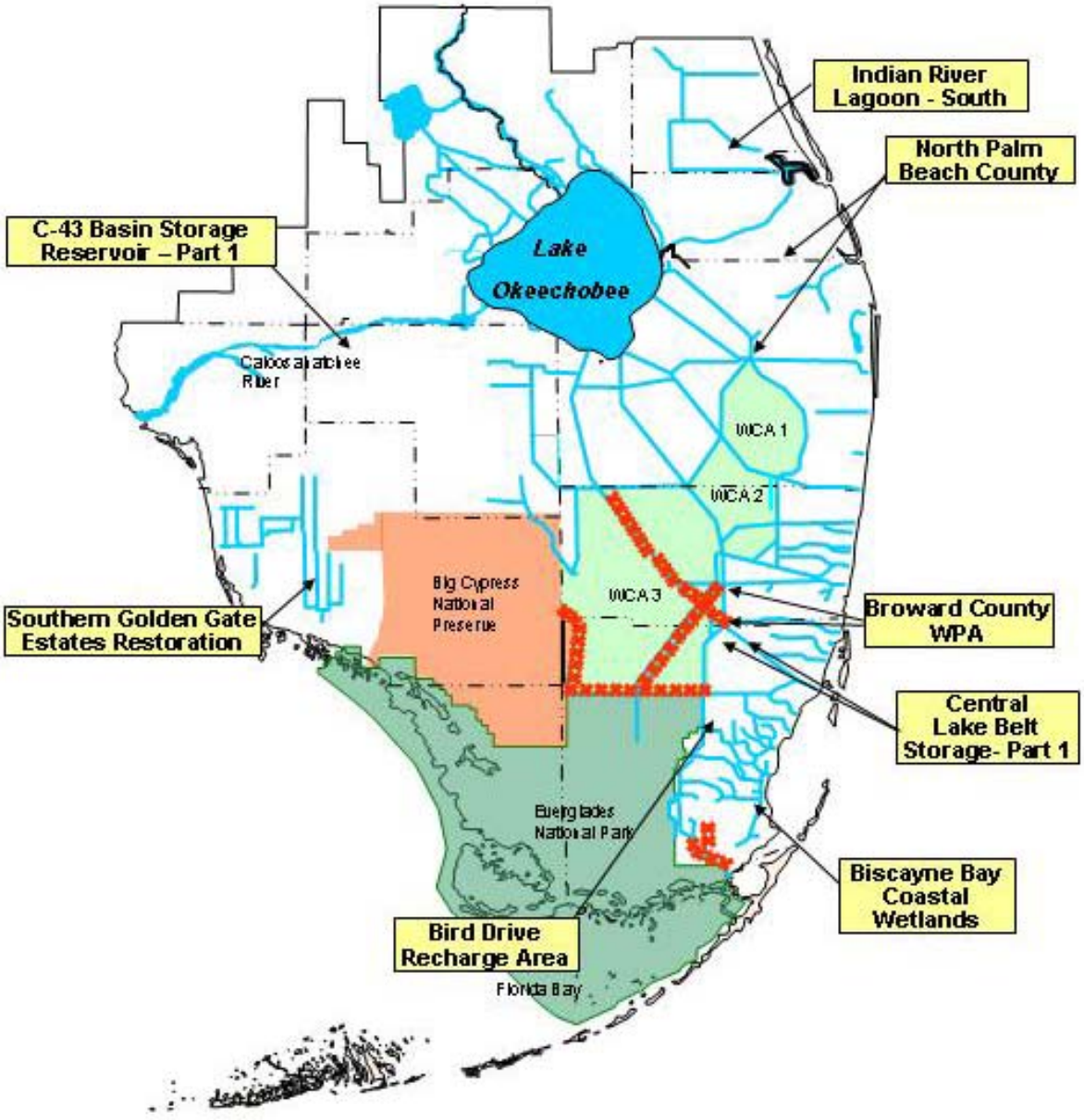

Figure 1. General location of CERP projects for which land was acquired during Fiscal Year 2003

STATUS OF PROGRAM-LEVEL ACTIVITIES

Eight major efforts comprise the program-level activities for implementation of the CERP:

- Program Controls
- Geodetic Vertical Control Surveys
- RECOVER
- Public Outreach
- Environmental and Economic Equity
- Data Management
- Recreation
- Interagency Modeling Center

The initial Master Program Management Plan specified completion of program management plans for Program Controls, Public Outreach, Environmental and Economic Equity, Geodetic Vertical Control Survey and RECOVER. Initial program management plans have been completed for all these program-level activities and for Data Management. The Recreation and Interagency Modeling Center program management plans are being developed, and are expected to be completed during the Second Quarter of 2004. Dates for the final approval of program management plans are shown in **Table 6**.

The Master Program Management Plan and the program management plan for RECOVER are being updated. Both updates are expected to be completed in December 2003.

Table 6. Final approval of program management plans for program-level activities

Program-Level Activity	Actual Completion Initial Program Management Plan	Expected Completion Date of Initial or Updated Plan
Master Program Management Plan	August 2000	December 2003
Program Controls	December 2000	
Geodetic Vertical Control Surveys	February 2001	
RECOVER	May 2001	December 2003
Public Outreach	August 2001	
Environmental and Economic Equity	September 2001	
Data Management	February 2002	
Master Recreation Plan		March 2004
Interagency Modeling Center		March 2004

The following paragraphs describe the program-level activities in more detail and provide an overview of their respective statuses.

Program Controls. The Program Controls Management Plan (USACE and SFWMD, 2000c) directs the implementation of a program controls function that will be able to confirm that CERP implementation is being managed in a manner consistent with what has been agreed upon by the SFWMD and the USACE. The initial plan, which was approved in December 2000, identifies the joint implementation of critical program controls functions, including program schedule management, financial management, records management, project performance measurement and reporting, and web site management. The following year, an enterprise project management system was rolled out to manage the CERP Master Implementation Schedule; and that schedule was subsequently updated in July 2001. The Master Implementation Schedule is being updated again, to be completed in 2004. During Fiscal Year 2003, a number of CERP Guidance Memoranda were developed to provide direction on subjects including: Total

Project Cost Estimate Management, Project Milestones, Work Breakdown Structure and CERP P3e (enterprise project management system) Protocol Management. A Program Controls Implementation Plan is under development, as is a CERP Guidance Memorandum regarding Recording Non-Federal Credits into the Corps Financial Management System.

Geodetic Vertical Control Surveys. The Geodetic Vertical Control Surveys program-level activity consists of surveying a thousand linear miles of First Order Class II level lines, setting or recovering approximately 1,000 monuments, route reconnaissance, web mapping, global position satellite positioning on red marks, data processing, and publication of the results on the National Spatial Reference System. The program management plan was approved in February 2001 (USACE and SFWMD, 2001a). Fieldwork began in May 2001 and completed in March 2002. The data was submitted to the National Geodetic Survey in July 2002 and the final Network adjustment was completed in February 2003. The program was completed in March 2003.

RECOVER. The program management plan for RECOVER (USACE and SFWMD, 2001b) is currently being revised and is scheduled for completion in December 2003. A draft of the Performance Measure Documentation Report was distributed for RECOVER review in June 2003 (RECOVER, 2003a), and the revised draft will be distributed for public and agency review in September 2003. A revised draft Monitoring and Assessment Plan (RECOVER, 2003b) was released for public and agency review in March 2003, and a final version is scheduled for completion in September 2003. This document will focus on the monitoring portion of the plan; the assessment portion is currently under development. The draft regional conceptual ecological models presented in Appendix A of the Monitoring and Assessment Plan, along with a total systems model, are being prepared for publication in a peer reviewed journal by December 2003. Projects recommended in the Monitoring and Assessment Plan were designated for fast track implementation during Fiscal Year 2003. Indicators for interim goals and interim targets were proposed in February 2003 (RECOVER, 2003c). The interim goals and interim targets are at present being developed and are scheduled for completion in October 2003. A RECOVER Regional Evaluation and Report Process (RECOVER, 2003d) has been developed for use during plan formulation and evaluation during PIR development.

Public Outreach. Public Outreach is a process by which interested and affected individuals, organizations and governmental entities are informed of a project and its goals and, therefore, have the opportunity to participate in the decision-making process. Public outreach supports the exchange of ideas and information among interested individuals and groups, a process that is critical to resolving the challenges that will arise during the implementation of the CERP. A Public Outreach Program Management Plan (USACE and SFWMD, 2001c) was completed in August 2001, describing a long-term program of public information and involvement. During Fiscal Year 2003, an assessment plan for the CERP Public Outreach efforts was completed, a series of public workshops was held, and a short video was developed. The SFWMD and USACE developed a CERP logo, visual displays, printed materials and promotional items. The agencies now distribute an electronic newsletter to the general public on CERP outreach activities. Both agencies are planning for future outreach efforts, including a series of facilitated meetings for community members later in 2003 to further refine outreach plans. Other CERP Public Outreach efforts include project-level assistance with public workshops and meetings; producing a series of overviews and fact sheets on specific CERP projects; and other efforts to ensure the public is informed of and has the opportunity to provide input into the development of the CERP projects during the planning stages.

Environmental and Economic Equity. The Environmental and Economic Equity program covers economic equity, environmental justice, socio-economic baseline data, project support and guidance, research and evaluation, and assessment on socioeconomic parameters of CERP program implementation. The Environmental and Economic Equity Program Management Plan (USACE and SFWMD, 2001d) was completed in August and approved in September 2001. Since then, several program elements have been

implemented, including: a preliminary occupation analysis, a small business technical assistance program, a collection of 2000 census data for maps using U.S. Environmental Protection Agency guidelines to show demographics, environmental justice potential areas and languages, a project CERP Guidance Memorandum for environmental justice, and the continuation of the Glades Area Revitalization Project. A contractor has been chosen to complete both the Agricultural and Urban Corridor Analysis. Scheduled facilitated meetings will provide an assessment and set priorities for future efforts.

Data Management. The program management plan for CERP Data Management (USACE and SFWMD, 2002a) establishes a strategy for meeting CERP data management requirements. A joint SFWMD-USACE team is identifying data requirements, developing the information technology infrastructure to support the requirements, and assembling data standards, guidelines, protocols, and standard operating procedures to assure effective data integration. The Program Management Plan for CERP Data Management was completed in February 2002 and is being revised to include new tasks and additional clarification of the program. Implementation has been initiated for a CERP Data Catalog, Storage Area Network, backup and archival system, and integrated Geographic Information System operations.

Recreation. The impacts of CERP implementation on existing recreational use within the South Florida ecosystem will be identified, evaluated and addressed in a CERP Master Recreation Plan. The plan will also identify and evaluate potential new recreation, public use and public educational opportunities. Promising opportunities may be recommended for further evaluation during the development of PIRs for specific CERP projects, for implementation through other cost-share arrangements between federal, state, local or non-profit entities, or for stand-alone congressional authorization. Development of the program management plan was initiated in August 2002 and is expected to be completed during the Second Quarter of Fiscal Year 2004. The Master Recreation Team will comprise sub-teams for recreation on each CERP project. A Recreation CERP Guidance Memorandum is being developed.

Interagency Modeling Center. Implementation of the CERP requires an unprecedented volume of numerical simulation modeling to estimate the performance of proposed projects. In order to increase the synergy among the USACE, the SFWMD and other agencies and stakeholders, the USACE and SFWMD created an Interagency Modeling Center, which will be the umbrella organization for organizing, integrating and supplementing available modeling resources to accomplish CERP requirements. The USACE and SFWMD have developed a shared vision, formed and staffed the IMC and included participants from other agencies. The Interagency Modeling Center is being implemented in three stages, which are integrated to form an overall implementation approach that applies interim, near-term and long-term strategies simultaneously to meet all modeling needs of CERP and RECOVER.

STATUS OF PROJECT-LEVEL ACTIVITIES

The SFWMD and the USACE have begun detailed planning and design of CERP projects generally in accordance with the implementation schedule of the original plan. The implementation schedule was revised to incorporate changes based on new state and federal legislation and other factors. Also, changes were made as a result of reduced technical uncertainties and clarified relationships between external milestones and specific CERP projects. The most recent schedule was published in July 2001; revisions commenced during 2003 following the promulgation of Programmatic Regulations as required by WRDA 2000. The Programmatic Regulations are expected to become effective in December 2003, and the second revision of the CERP Master Implementation Schedule is expected to be released during the Second Quarter of Fiscal Year 2004. The current list of all CERP projects is provided in **Appendix A**.

This section of the report highlights the individual projects and the PMPs and PIRs that have been initiated or completed. For purposes of this section, the projects have been grouped into four classifications: pilot projects, feasibility studies, critical projects and other CERP projects.

The SFWMD and the USACE have begun detailed planning and preliminary design of seven pilot projects, three feasibility studies and a number of other capital or construction projects. In addition, the agencies have continued implementing seven critical projects that commenced prior to CERP authorization.

Pilot Projects

Seven pilot projects will be conducted to assist in the implementation of the CERP (**Table 7** and **Figure 2**). Four of these pilot projects are designed to address the technical and regulatory uncertainties regarding regional implementation of the CERP Aquifer Storage and Recovery (ASR) projects. The remaining three are designed to test other proposed technologies. The PMPs have been completed for all of projects except for the Wastewater Reuse Technology Pilot Project, which is scheduled to be completed in December 2003. The Project Delivery Teams are now working on the Pilot Project Design Reports for each pilot project.

Table 7. Final approval of PMPs and PPDRs for pilot projects

Pilot Project	PMP Completion	PPDR Completion
Lake Okeechobee ASR Pilot	March 2001 (Actual)	December 2004 (Planned)
Caloosahatchee (C-43) River Basin ASR Pilot	February 2002 (Actual)	September 2004 (Planned)
Hillsboro ASR Pilot	March 2001 (Actual)	August 2004 (Planned)
ASR Regional Study	August 2003 (Actual)	PIR – N/A
Lake Belt In-Ground Reservoir Technology Pilot	April 2002 (Actual)	December 2006 (Planned)
L-31N Seepage Management Pilot	March 2002 (Actual)	May 2006 (Planned)
Wastewater Reuse Technology Pilot	December 2003 (Planned)	February 2006 (Planned)

Lake Okeechobee ASR Pilot. The Lake Okeechobee ASR Pilot Project will evaluate the technical and regulatory uncertainties associated with using ASR technology near Lake Okeechobee. The project includes data collection, plan formulation, permitting, design, construction, testing, operation and reporting for five ASR systems that will store available water for subsequent recovery during dry periods. These five systems will be located at three geographically dispersed areas around Lake Okeechobee. One of these sites will be a three-well cluster to evaluate how multiple ASR systems interact with one another. In March 2001, the PMP was approved (SFWMD and USACE, 2001f) and the PPDR was initiated. Site selection for exploratory wells was completed during December 2002, and the SFWMD awarded an exploratory well drilling contract during April 2003. The Draft PPDR/NEPA Report is scheduled to be completed in December 2004, with final approval expected in November 2005.

Caloosahatchee River (C-43) Basin ASR Pilot. The Caloosahatchee River ASR Pilot Project will assess the hydrogeological characteristics of the Hawthorn and Floridan aquifers and water quality in the vicinity of the C-43 basin. Suitable sites and optimal configurations of ASR wells will be determined, and the quality of the source water to be recharged will be assessed. The Caloosahatchee River ASR Pilot PMP (USACE and SFWMD, 2002g) was completed and the PPDR was initiated in February 2002.

Evaluation of engineering alternatives was completed during March 2003, and exploratory well construction was initiated in May 2003 and completed in September 2003. The Draft PPDR and NEPA Report are scheduled to be complete in November 2003, with final approval in September 2004.

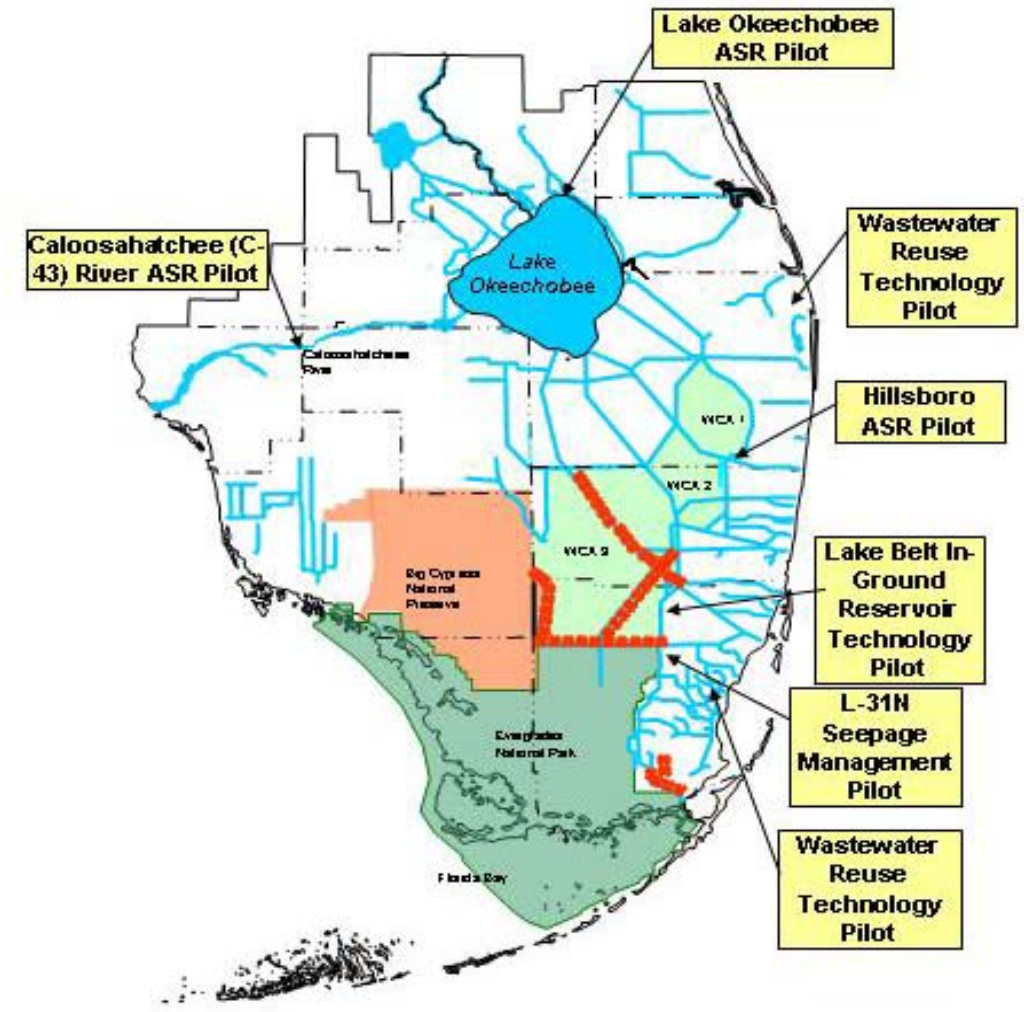

Figure 2. General location of CERP pilot projects

Hillsboro ASR Pilot. The Hillsboro ASR Pilot Project will address uncertainties associated with ASR technology proposed in the CERP. The project will also determine the feasibility of using ASR technology, evaluate the technical and regulatory uncertainties of the technology, and determine the optimum design of a facility prior to embarking upon full-scale implementation of the ASR facilities at the Hillsboro and other sites in the Lower East Coast region. The PMP (USACE and SFWMD, 2001h) for this project was approved and the PPDR Process was initiated in March 2001. The Draft PPDR/NEPA Report is scheduled to be complete in November 2003, with final approval in August 2004.

ASR Regional Study. The ASR Regional Study is designed to address regional technical issues associated with the CERP ASR Program beyond the scope and budget of the individual ASR pilot projects. The PMP was initiated in March 2001 and was approved in July 2003 (USACE and SFWMD, 2003b). The ASR Regional Study is expected to be completed approximately one year after the completion of the final ASR pilot project. The ASR Regional Study schedule will be updated during 2004 to include task durations and scope adjustments to accommodate proposed expedited schedules for the ASR projects. Information gathered during the regional investigation will be used along with the results of the ASR pilot projects to make recommendations for the expanded use of ASR technology envisioned in the CERP.

Lake Belt In-Ground Reservoir Technology Pilot. The Lake Belt In-Ground Reservoir Technology Pilot Project will determine whether two full-scale Lake Belt Storage Area components can be successfully constructed and operated to provide environmental and water supply deliveries. The pilot project will consist of land acquisition, a geologic investigation, a pilot reservoir siting, construction of impermeable barriers and a pilot-scale, in-ground reservoir, and a water quality monitoring program. The PMP was completed in March 2002 (USACE and SFWMD, 2002b). The PPDR was initiated in April 2002 and is expected to be approved in December 2006. Preliminary screening of alternatives was completed during March 2003 and pilot project plan alternatives were identified during April 2003.

L-31N Seepage Management Pilot. The purpose of the L-31N Seepage Management Pilot Project is to investigate seepage management technologies to control seepage from Everglades National Park. The project will provide information to determine the appropriate amount of wet season groundwater flow to return to Everglades National Park while minimizing potential impacts to Miami-Dade County's West Wellfield and freshwater flows to Biscayne Bay. The PMP was approved in April 2002 (USACE and SFWMD, 2002c). Preliminary modeling has been conducted with the North Miami Dade Sub-regional Ground Water Model, a Baseline Water Quality Monitoring Plan has been drafted and a contract was awarded to construct two joint use (Hydraulic and Hydrology and Water Quality) well clusters within the L-31 N right-of-way. Well drilling commenced in July 2003 with the USGS providing on-site geo-technical services. The PPDR is scheduled to be completed in May 2006.

Wastewater Reuse Technology Pilot. The Wastewater Reuse Technology Pilot Project will determine levels of treatment and technologies needed to discharge reclaimed water into natural areas, determine the ecological effects of using superior, advanced treated, reclaimed water and determine parameters or constituents of concern. There are two parts of this pilot project. One part concentrates on assessing the effects of using reclaimed water in the Bird Drive Recharge Area. The second part involves the design, construction, operation and monitoring of a pilot plant in southern Miami-Dade County to produce reclaimed water to discharge to Biscayne Bay and estuarine wetlands. The purpose of the pilot treatment facility is to determine the ecological effects of using reclaimed water to replace and augment freshwater flow to Biscayne Bay, and to determine the level of treatment required to prevent degradation of estuarine wetlands and Biscayne Bay. The draft PMP (USACE and SFWMD, 2003a) was posted for external review during April 2003, with approval expected during December 2003. PPDR activities will begin after approval of the PMP.

Feasibility Studies

The time frame of the Restudy did not permit a thorough investigation of all the regional water resource challenges of South Florida. Accordingly, a number of new feasibility studies were proposed. These studies will be conducted under the authority of WRDA 1996, which allows for the continuation of studies and analyses that are necessary to further the CERP. These studies will investigate conceptual

designs and make regional recommendations for meeting the future needs of agricultural, urban and environmental users.

There are seven studies, of which the feasibility studies have been authorized: Water Preserve Areas (WPAs), Indian River Lagoon South, Southwest Florida, Florida Bay and Florida Keys, Biscayne Bay and Comprehensive Integrated Water Quality. The WPAs, Indian River Lagoon - South, and Biscayne Bay feasibility studies were authorized prior to the CERP; therefore, PMPs were not required. The expected completion dates of the PMPs and final feasibility report are listed in **Table 8**. The locations of five of the feasibility studies are presented in **Figure 3.**

Table 8. Final approval of PMPs and final studies for feasibility studies

Feasibility Study	PMP Completion	Study Completion
Additional Water for Everglades National Park and Biscayne Bay Reconnaissance Study	Authorized Prior to CERP	June 2003 (Planned)
Comprehensive Integrated Water Quality Feasibility Study	August 2003 (Actual)	December 2006 (Planned)
Florida Bay and Florida Keys Feasibility Study	February 2002 (Actual)	March 2006 (Planned)
Indian River Lagoon – North Feasibility Study	April 2003 (Actual)	TBD
Indian River Lagoon – South Feasibility Study	Authorized Prior to CERP	August 2002 (Actual)
Southwest Florida Feasibility Study	January 2002 (Actual)	June 2006 (Planned)
Water Preserve Areas Feasibility Study	Authorized Prior to CERP	Split to Projects

Additional Water for Everglades National Park and Biscayne Bay Reconnaissance Study. The USACE has prepared a final reconnaissance study (Section 905b) report (USACE, 1995) investigating the need for, quantity needed, timing and distribution of, and impacts and benefits associated with providing additional water to Everglades National Park and Biscayne Bay in addition to the amount that will be provided upon implementation of the CERP. The reconnaissance study confirmed that Federal participation is warranted to proceed to a feasibility-level study; however, a non-Federal sponsor for the feasibility phase has not yet been identified. The final report, which was issued in June 2003, also recommends deferral of the feasibility phase until completion of the technical documentation report to be prepared for the Initial CERP Update project currently underway by RECOVER.

Comprehensive Integrated Water Quality Feasibility Study. The Comprehensive Integrated Water Quality Feasibility Study is a study co-sponsored by the USACE and the Florida Department of Environmental Protection (FDEP). The study will develop a comprehensive system-wide plan to achieve and sustain improved water quality for ecosystem restoration in South Florida. The study area for the project is the SFWMD boundary, plus the study area for the Indian River Lagoon - North Feasibility Study, which is within the St. Johns River Water Management District. The study will integrate CERP projects with other federal, state and local government programs. The study will also identify degraded water bodies, identify and quantify pollution types and sources, develop recommended pollution load reduction targets, conduct an inventory and evaluation of the suite of structural and nonstructural measures that improve water quality, recommend additional programs and projects, and identify appropriate funding sources. The draft PMP (USACE and FDEP, 2003) was issued in August 2003; and the USACE and FDEP will be accepting public comments until October 2003. Following the completion of the PMP, the USACE and the FDEP will negotiate an equal cost-sharing agreement to perform the feasibility study phase, which is scheduled for completion in December 2006.

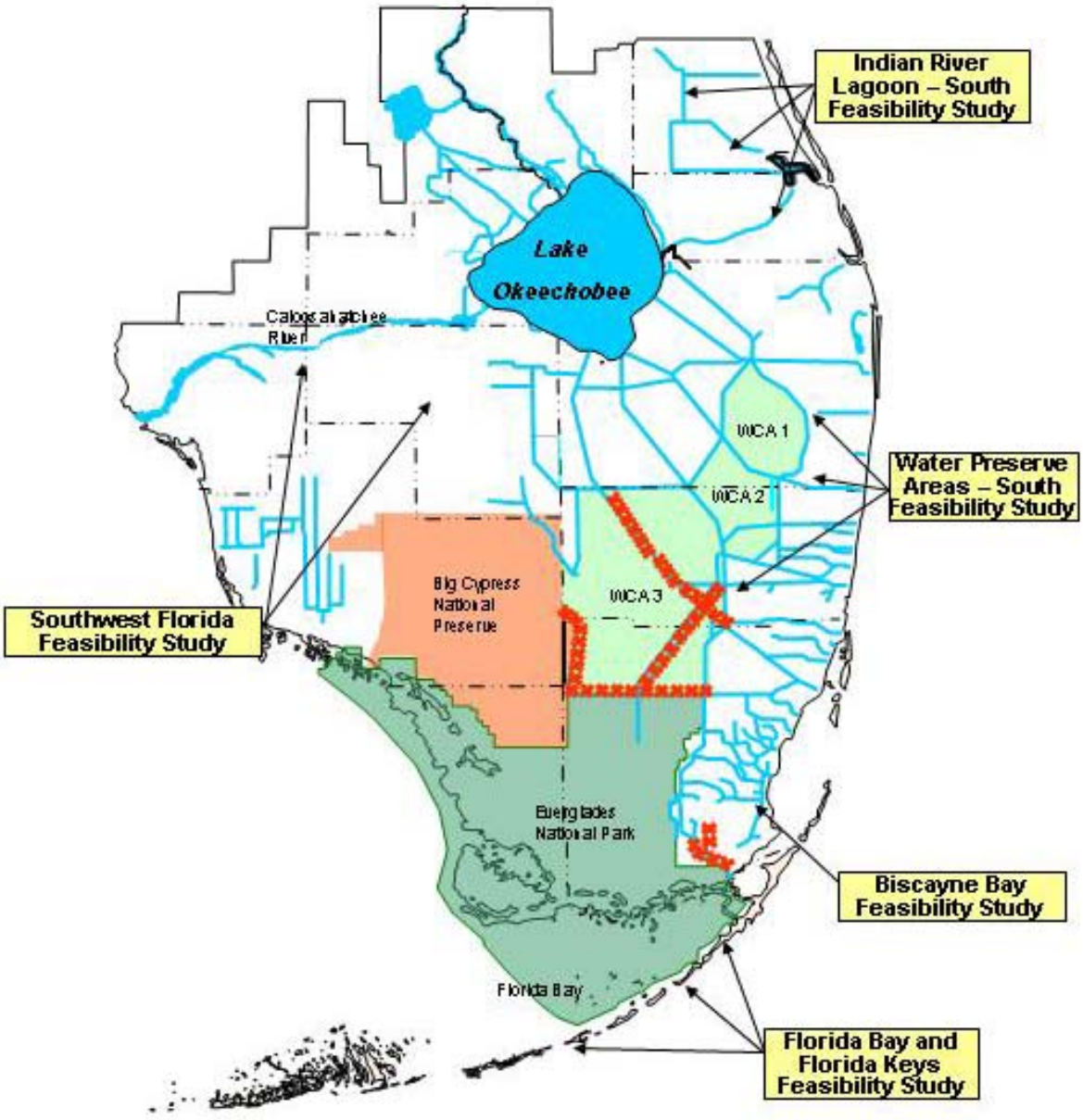

Figure 3. General locations of feasibility studies within SFWMD

Florida Bay and Florida Keys Feasibility Study. The Florida Bay and Florida Keys Feasibility Study will determine the types of modifications needed to successfully restore and protect the water quality and ecological conditions of Florida Bay and the Florida Keys' reef tract. The study will evaluate the quantity, timing, distribution and quality of fresh water that should flow to Florida Bay and provide recommendations for any modification of water deliveries that are expected as a result of the implementation of Everglades' restoration programs. The PMP was finalized in February 2002 (USACE and SFWMD, 2002f). The feasibility study was initiated in March 2002. Performance measures and evaluation models are currently being developed. The final feasibility report is scheduled for completion in March 2006.

Indian River Lagoon – North Feasibility Study. The Indian River Lagoon - North Feasibility Study area extends from Ponce De Leon Inlet in Volusia, through Brevard and Indian River counties, southward to Fort Pierce Inlet in St. Lucie County, and includes the Mosquito Lagoon and Banana River Lagoon. Issues under consideration for this study, which is being conducted between the USACE and the St. Johns River Water Management District, include improving habitat, improving circulation, improving water quality, developing a sediment strategy, better control of runoff, exotic vegetation removal, and increasing recreational opportunities. The PMP (USACE and SJRWMD, 2003) for this study was approved in April 2003.

Indian River Lagoon - South Feasibility Study. The purpose of the Indian River Lagoon - South Feasibility Study is to improve surface water management in the C-23, C-24, C-25 and C-44 basins for habitat improvement in the St. Lucie Estuary and the Indian River Lagoon. Recommended facilities include reservoirs for surface water storage and stormwater treatment areas for water quality improvement and natural storage and water treatment areas. The final feasibility report was completed in August 2002 and released in September 2002 (USACE and SFWMD, 2002d). The draft PIR and Supplement to the Supplemental Environmental Impact Statement is expected to be issued in December 2003 with a public comment period through February 2004. The purpose of the PIR is to incorporate the WRDA 2000 project assurances requirements of all CERP projects and the C-44 feature design refinements into the Final Feasibility Report and recommended plan from August 2002. Completion of the final PIR is expected in March 2004, and Congressional authorization is anticipated in WRDA 2004. By agreement between the USACE and SFWMD, early work Pre-Construction Engineering and Design (PED) efforts are in progress.

Southwest Florida Feasibility Study. This feasibility study will identify water resource-related problems and opportunities and provide a framework to address the health of aquatic ecosystems, water flows, water quality, water supply, flood protection, wildlife, biological diversity and natural habitat in Southwest Florida. The PMP was completed and approved in January 2002 (USACE and SFWMD, 2002e). The feasibility study was initiated in August 2001. During Fiscal Year 2003, hydrologic, natural systems and water quality monitoring were performed. The final feasibility report is scheduled for completion in June 2006.

Water Preserve Areas Feasibility Study. The Water Preserve Areas (WPAs) Feasibility study investigated concepts to capture and store excess surface waters by backpumping water from the lower east coast urban areas that is normally discharged to tide via the Central and Southern Florida Project canal system. The reconnaissance and feasibility phase of the C&SF Project Review Study demonstrated that the Water Preserve Areas concept is an integral part of the Everglades restoration plan. The draft feasibility report (USACE and SFWMD, 2001i) was completed in October 2001. In June 2002, a revised strategy was formulated to finalize the feasibility study and proceed with individual PIRs for each of the WPA projects. Individual PMPs and PIRs were initiated and work continues on the individual PIRs that were authorized in the Water Resources Development Act of 2000. Once these are complete, work will be initiated on the remaining projects that have yet to be authorized. Both the PMPs and PIRs are being worked on to expedite the process for the Water Preserve Area projects.

Critical Projects

Critical projects, authorized in 1996, are comparatively small restoration projects undertaken by the USACE and SFWMD prior to CERP authorization. Seven projects determined to be critical to the restoration of the South Florida ecosystem were authorized prior to the CERP (**Figure 4**). They are now being implemented along with the CERP projects, but PMPs and PIRs were not required. Instead, brief

project reports, referred to as "letter reports" were prepared for each of these projects. The letter reports are available on the USACE's Jacksonville District web site [www.saj.usace.army.mil].

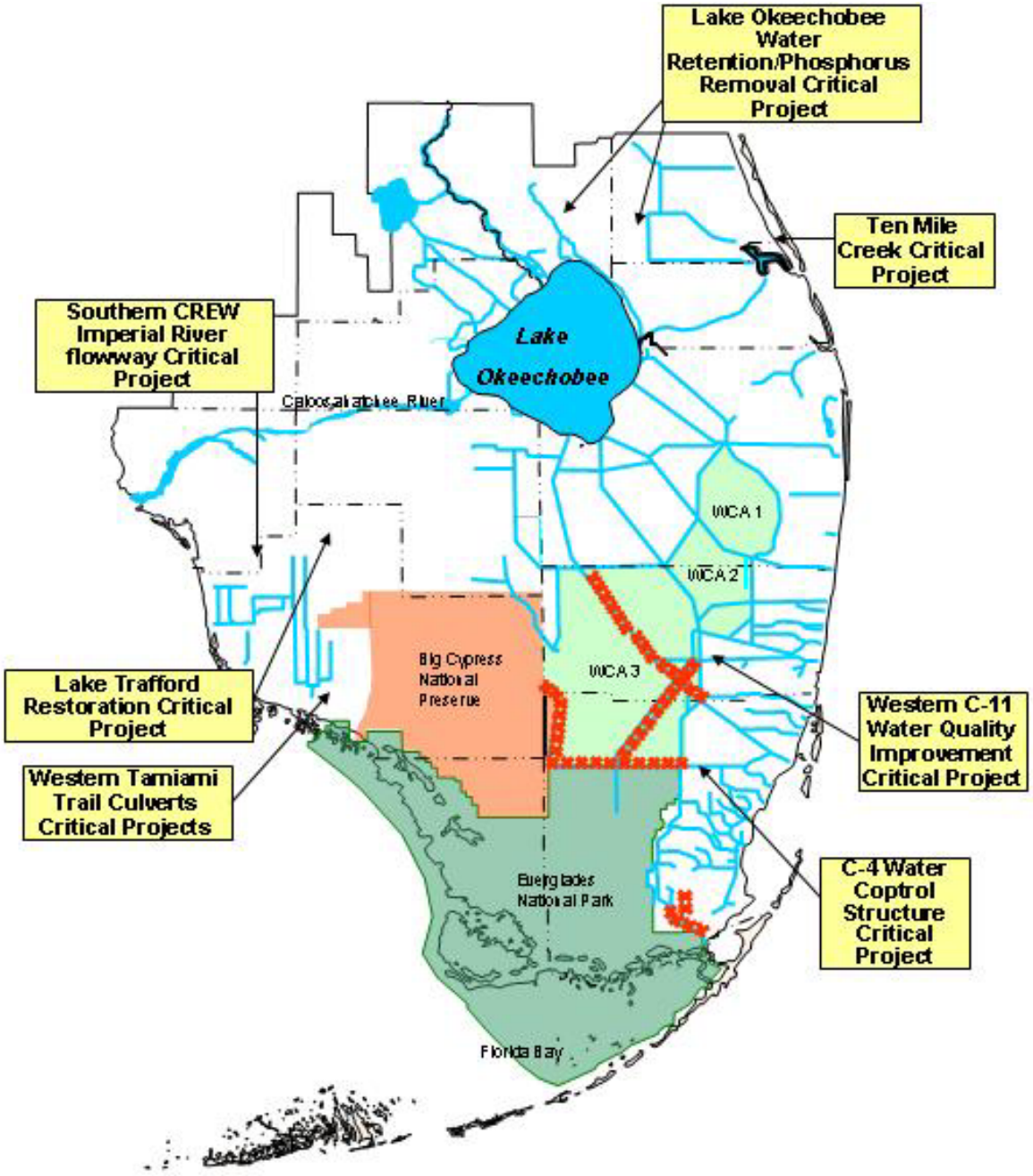

Figure 4. General location of critical projects

Ten Mile Creek. The Ten Mile Creek Critical Project will provide seasonal or temporary storage of stormwater from the Ten Mile Creek basin in St. Lucie County. An above-ground reservoir with a pump station and a gated water-level control structure will be constructed. In addition a stormwater treatment area will be included for further water quality enhancement prior to discharge downstream. Plans and specifications have been completed. The project was advertised for solicitation of construction bids in June and the construction contract was awarded in September 2003. The Notice to Proceed is scheduled to be issued in October with a groundbreaking ceremony scheduled for November 2003. Construction is scheduled to be completed in December 2005.

Western Tamiami Trail Culverts. The Tamiami Trail, which was constructed in 1928, intercepts north-south flowways to the Big Cypress National Preserve. The Western Tamiami Trail Culverts Critical Project will increase the number of north-south flowways by adding culverts that will restore natural hydropatterns and improve sheetflow of surface water within the Ten Thousand Island National Wildlife Refuge, the Big Cypress National Preserve and Everglades National Park. Plans and specifications were completed in January 2003. The application for water quality certification was completed in May 2003 and local permits were acquired during July 2003. Due to unavailability of WRDA 1996 funds, the SFWMD will implement this project in two phases, the first of which will involve the segment west of State Road 29, and will be constructed as part of the Southern Golden Gate Estates Restoration project. A contract for construction is expected to be awarded during the Second Quarter of Fiscal Year 2004, and to be completed during the Second Quarter of Fiscal Year 2006.

C-4 Water Control Structure. A large volume of seepage is lost from WCA-3B to the coast because the existing water management system is unable to raise surface water and groundwater levels high enough to prevent seepage. This project will construct a gated control structure in the C-4 in order to raise surface and ground water levels to prevent drainage of the Everglades and to reestablish natural hydroperiod patterns. The C-4 Water Control Structure will increase aquifer recharge and surface and sub-surface water storage to enhance regional water supplies. The project will also enhance plant and animal habitat. The plans and specifications were completed in July 2000. Construction began in November 2000 and was completed in May 2003.

Southern CREW/Imperial River Flowway. The Southern Corkscrew Regional Ecosystem Watershed (CREW)/Imperial River Flowway Critical Project will reestablish more natural flow patterns in the Southern CREW, restore the Imperial River's natural flowway to Estero Bay, and reduce nutrient loads to the Imperial and Estero Rivers. The project involves the acquisition of approximately 4000 acres and is divided into three phases. Phase 1 was the construction of the Kehl Canal Weir Modification, which was completed in February 1998. Phase II is expected to be completed in August 2004 and consists of land acquisition and restoration of historic sheetflow to approximately 2,720 acres. Phase III consists of the acquisition of approximately 1,280 acres and restoration of historic sheetflow, and it is expected to be completed in October 2004. During Fiscal Year 2003, the SFWMD worked with homeowners on closings and relocations.

Lake Trafford Restoration. The Lake Trafford Restoration Critical Project will improve lake water quality and subsequent flows to the Corkscrew Swamp Sanctuary, the Corkscrew Regional Ecosystem Watershed and the Florida Panther National Wildlife Refuge. Eight-and-a-half-million cubic yards of organic sediment will be dredged from the lake and disposed of on agricultural lands. The project was placed on hold during Fiscal Year 2003 until funding issues could be resolved. Project construction offers came in greater than funds available, and the solicitation was cancelled. The project is being re-scoped for less removal of materials. No federal funds from WRDA 1996 are presently available for this project.

Lake Okeechobee Water Retention/Phosphorus Removal. The project consists of design and construction of stormwater treatment areas (STAs) for Taylor Creek and Nubbin Slough, and the restoration of isolated wetlands on privately owned agricultural parcels north of Lake Okeechobee. The

purpose of the project is to attenuate peak flows and store water from portions of the watershed, and to improve water quality. The work on isolated wetlands is suspended. Final plans and specifications were completed in June 2003 for both STAs and contracting for construction is proceeding. Contract awards are planned for the Second Quarter of 2004. Construction for the Taylor Creek STA is scheduled to be complete in March 2005 and construction for the Nubbin Slough STA is scheduled to be complete in December 2005.

Western C-11 Water Quality Improvement. The purpose of the Western C-11 Water Quality Improvement Critical Project is to improve the quality and timing of stormwater discharges from the Western C-11 Basin to the Everglades Protection Area by separating seepage from stormwater runoff and pumping the relatively clean seepage waters back into WCA-3A. Currently, the S-9 pump station pumps urban and agricultural stormwater runoff from the western C-11 basin directly into WCA-3A. Four new seepage return pumps adjacent to the S-9 pump station (Phase 1) were installed in November 2000. The station became fully operational including remote control capability in June 2003. Construction of a new divide structure in the C-11 canal (Phase 2) began in November 2001, but was halted in April 2002 in order to change the design from a vertical lift gate to an Obermeyer bottom hinged, air bladder gate system, which will achieve a lower head loss. Construction on the new design began in September 2003 and is scheduled to be completed by December 2004.

Other SFWMD CERP Projects

Work has commenced on a number of other CERP projects; the SFWMD is the local sponsor for most of these other projects (**Table 9** and **Figure 5**). The PMPs have been completed for several of these projects, and PIRs have been initiated.

Table 9. Final approval of PMPs and PIRs for other CERP projects for which the SFWMD is the local sponsor

SFWMD CERP Project Name	PMP Completion	PIR Completion
Acme Basin B Discharge	October 2003 (Planned)	March 2006 (Planned)
Big Cypress / L-28 Interceptor Modifications	September 2005 (Planned)	June 2007 (Planned)
Bird Drive Recharge Area	March 2004 (Planned)	N/A
Biscayne Bay Coastal Wetlands	August 2002 (Actual)	January 2006 (Planned)
Broward County Secondary Canal System	TBD	TBD
Broward County WPA	February 2004 (Planned)	N/A
C-4 Structure	November 2003 (Planned)	TBD
C-43 Basin Aquifer Storage and Recovery – Part 2	February 2009 (Planned)	August 2011 (Planned)
C-43 Basin Storage Reservoir – Part 1	February 2002 (Actual)	April 2007 (Planned)
C-111 Spreader Canal	March 2002 (Actual)	November 2006 (Planned)
Caloosahatchee Backpumping with STA	September 2005 (Planned)	February 2008 (Planned)
Central Lake Belt Storage	September 2011 (Planned)	March 2014 (Planned)
Everglades Agricultural Area Storage Reservoir – Part 1	January 2002 (Actual)	July 2005 (Planned)

Everglades Agricultural Area Storage Reservoir – Part 2	March 2005 (Planned)	September 2007 (Planned)
Everglades National Park Seepage Management	December 2006 (Planned)	December 2008 (Planned)
Florida Keys Tidal Restoration	April 2002 (Actual)	September 2004 (Planned)
Flow to NW & Central WCA 3A	May 2003 (Planned)	September 2004 (Planned)
Hillsboro ASR	October 2009 (Planned)	May 2011 (Planned)
Indian River Lagoon – South	July 2003 (Actual)	March 2004 (Planned)
Lake Istokpoga Regulation Schedule	N/A	N/A
Lake Okeechobee ASR	May 2010 (Planned)	October 2013 (Planned)
Lake Okeechobee Watershed	July 2001 (Actual)	September 2006 (Planned)
Loxahatchee National Wildlife Refuge Internal Canal Structures	September 2003 (Planned)	December 2004 (Planned)
Modify Holey Land Wildlife Management Area Operation Plan	June 2004 (Planned)	N/A
Modify Rotenberger Wildlife Management Area Operation Plan	June 2004 (Planned)	N/A
North Lake Belt Storage Area	September 2011 (Planned)	March 2014 (Planned)
North Palm Beach County – Part 1	December 2003 (Planned)	June 2005 (Planned)
North Palm Beach County – Part 2	October 2009 (Planned)	April 2012 (Planned)
Palm Beach County Agricultural Reserve Reservoir	June 2006 (Planned)	May 2008 (Planned)
Site 1 Impoundment	November 2003 (Planned)	January 2006 (Planned)
Southern Golden Gate Estates Hydrologic Restoration	March 2001 (Actual)	May 2004 (Planned)
Strazzulla Wetlands	December 2003 (Planned)	N/A
WCA 3A & 3B Flows to Central Lake Belt	TBD	TBD
WCA 3 Decomp and Sheetflow Enhancement - Part 1	April 2002 (Actual)	December 2004 (Planned)

Acme Basin B Discharge. The Acme Basin B Discharge Project will provide water quality treatment and stormwater attenuation for runoff from Acme Basin B prior to discharge to the Arthur R. Marshall Loxahatchee National Wildlife Refuge. Available excess water may be used to meet water supply demands. Early work activities were initiated in April 2002. Preliminary screening of alternatives was completed during May 2003. The Project Management Plan is being revised to reflect plan formulation strategy for the PIR. The PMP is expected to be completed in October 2003. Several PIR activities have been initiated to avoid delaying the overall schedule. The Draft PIR/NEPA Report is expected to be completed in February 2005, with final submittal to Congress in March 2006.

Big Cypress / L-28 Interceptor Modifications. The purpose of the Big Cypress/L-28 Interceptor Modifications Project is to re-establish sheetflow from the West Feeder Canal across the Big Cypress Reservation and into the Big Cypress National Preserve, maintain flood protection on Seminole Tribal lands, and ensure that inflows to the North and West Feeder Canals meet applicable water quality standards. Consistency with the Seminole Tribe's Conceptual Water Conservation System master plan will be maintained. This project is scheduled to start in March 2005.

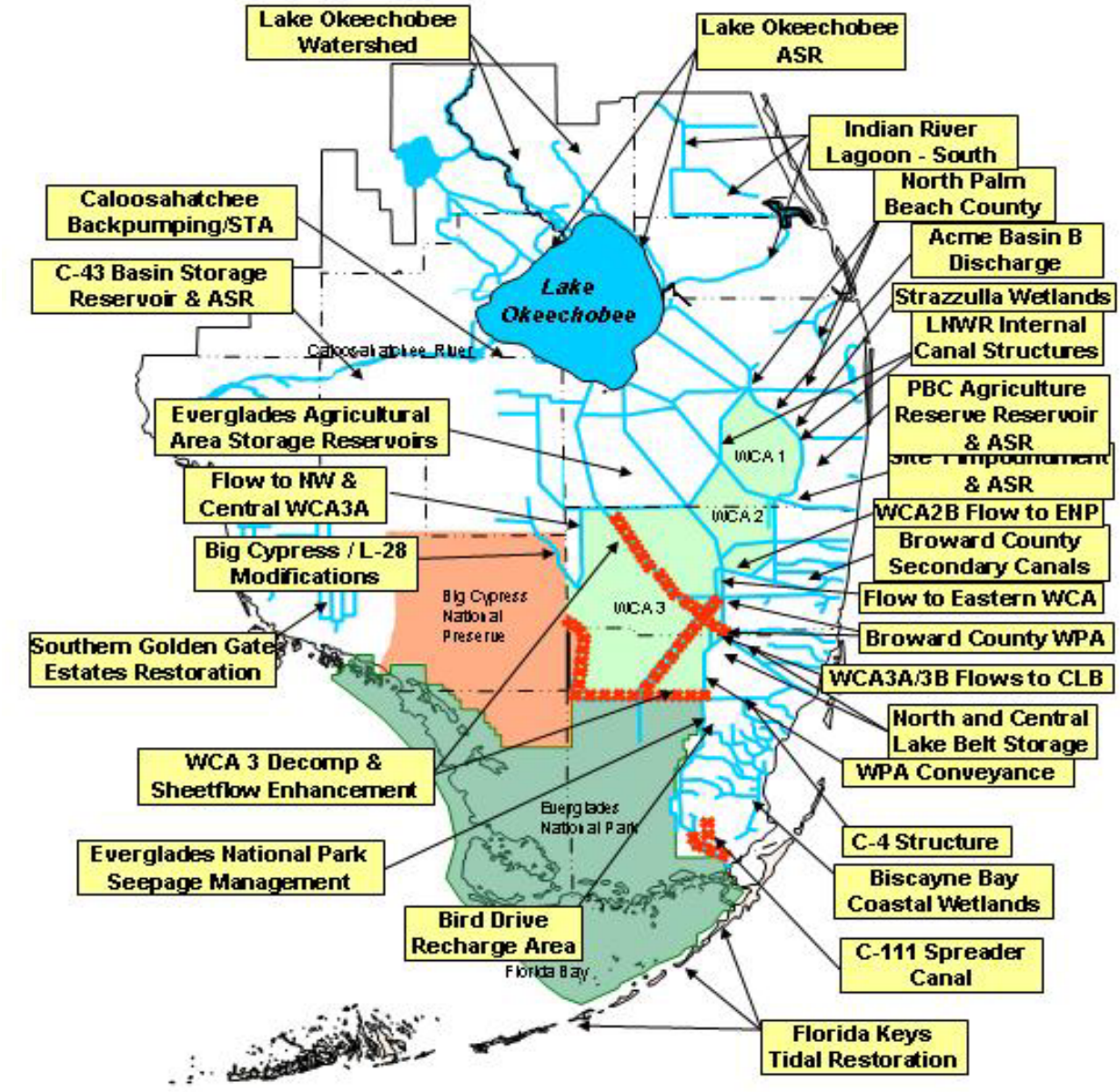

Figure 5. General locations of other CERP projects currently being implemented

Bird Drive Recharge Area. The purpose of the Bird Drive Recharge Area project is to capture runoff from the western C-4 Basin and accept inflow from the West Miami-Dade Wastewater Treatment Plant. This runoff will then be used to recharge groundwater and reduce seepage from the Everglades National Park buffer areas by increasing water table elevations east of Krome Avenue. The facility will also provide C-4 flood peak attenuation. The PMP for this project was initiated in July 2002, and it is scheduled to be completed in March 2004. During Fiscal Year 2003, 165 acres of land were acquired for this project.

Biscayne Bay Coastal Wetlands. The Biscayne Bay Coastal Wetlands project incorporates the L-31 East Flow Redistribution Critical Project. The ability of the CERP to provide hydrologic benefits to the southern Everglades is supported in large part by the Biscayne Bay Coastal Wetlands Project which

replaces freshwater inputs to the Biscayne Bay Estuary that may be reduced by other program components. The project has five sub-components: Deering Estate Flowway, Cutler Wetlands, L-31 East Flowway, North Canal Flowway and Barnes Sound Wetlands. The project commenced in October 2001 and the PMP was completed in August 2002 (USACE and SFWMD, 2002l). The PIR was initiated in September 2002. The Notice of Intent to Prepare NEPA was issued in February 2003. The draft PIR/NEPA Report is scheduled to be completed in January 2006 and submitted to Congress in July 2007. During Fiscal Year 2003, the SFWMD acquired 116 acres of land for this project; Miami-Dade County acquired additional lands, bringing the total acquired for this project during the fiscal year to 420 acres.

Broward County Secondary Canal System. The purpose of the Broward County Secondary Canal System Project is to reduce water shortages in the local well fields and stabilize saltwater interface. This will be accomplished by pumping excess water from C-9, C-12 and C-13 Canal Basins into the coastal canal systems in order to maintain canal stages at optimum levels. To maintain these stages, water will be drawn from other sources such as Site 1 Impoundment and North Lake Belt Storage Area, Lake Okeechobee and the Water Conservation Area when basin water is insufficient. This project includes a series of water control structures, pumps and canal improvements in C-9, C-12 and C-13 Canal Basins and the east basin of the North New River Canal in central and southern Broward County. This project has not yet started.

Broward County Water Preserve Area (WPA). Three components comprise the Broward County WPA project: C-11 Impoundment, C-9 Impoundment and Water Conservation Area 3A/3B Levee Seepage Management. The impoundment areas will aid in reducing seepage, provide groundwater recharge, provide adequate water supply to urban areas and prevent saltwater intrusion. The WCA 3A/3B Levee Seepage Management system will focus on seepage reduction by allowing higher water levels in the L-33 and L-37 borrow canals. The PMP for this project was initiated in July 2002. During Fiscal Year 2003, PMP development was on-going, and budget and schedules were resolved; further, 321 acres of land were acquired. The PMP is scheduled to be completed in February 2004

C-4 Structure. The C-4 Structure project is a water control structure in the C-4 Canal; its primary purpose is to divert water south into the C-2 Canal for groundwater and well field recharge. The ability to direct flows into the C-2 Canal will provide more freshwater flows to the central Biscayne Bay area. The structure can be operated to maximize canal flow during the wet season to optimize flood protection. Although incidental, the possibility of improving flood protection of the C-4 basin is significant, since flooding is an issue for the surrounding communities. The PMP for this project was initiated in July 2002, and it was scheduled to be completed in November 2003. During April 2003, however, further development of the PMP was placed on hold, as estimated resource costs for the PIR were unacceptably high in comparison to total project costs defined in the Yellow Book.

C-43 Basin Aquifer Storage and Recovery – Part 2. The purpose of the C-43 Basin ASR Project is to capture C-43 Basin runoff and releases from Lake Okeechobee. The wells will be designed for water supply benefits, some flood attenuation, water quality benefits to reduce salinity and nutrient impacts of runoff to the estuary, and to provide environmental water supply deliveries to the Caloosahatchee Estuary. This project has not yet started, however the Master Implementation Schedule shows that the PMP is scheduled to be completed in February 2009, and the PIR is scheduled to be completed in August 2011.

C-43 Basin Storage Reservoir – Part 1. The C-43 Basin Storage Reservoir – Part 1 project is the first part of the C-43 Basin Storage Reservoir and ASR component. The project includes design and construction of an above-ground reservoir in the C-43 basin to capture basin runoff and water releases from Lake Okeechobee. Facilities will be designed to provide water supply benefits, some flood attenuation, and environmental water supply deliveries and water quality benefits to the Caloosahatchee Estuary. Water quality improvement requirements are being assessed. The PMP was completed in February 2002 (USACE and SFWMD, 2002g). The PIR process was initiated in July 2002. The Notice of

Intent to Prepare NEPA was issued in March 2003. During Fiscal Year 2003, 3,354 acres of land were acquired for this project. Dual tracking transition planning is underway, and the PMP will be updated to incorporate schedule, budget and scope revisions reflecting division of tasks between the Southwest Florida Feasibility Study and this project. Current expectations are for the draft PIR/NEPA Report to be completed in August 2005, with submittal to Congress in May 2006.

C-111 Spreader Canal. The C-111 Spreader Canal Project will reestablish sheet flow and hydrologic connectivity between natural areas in the Southern Glades and Model Lands of South Dade County resulting in improved hydropatterns and a sustainable ecosystem. Specific project features include: a stormwater treatment area; enlarged pump station; extended spreader canal; installation of culverts; backfilling; and removal of two structures. The PMP was completed in March 2002 (USACE and SFWMD, 2002h). The PIR was initiated in April 2002 and was scheduled to be completed in October 2004, however schedule slippage was experienced during development of performance measures and preparation of the modeling scope of work. The schedule is being revised and the draft PIR/NEPA Report is currently expected to be completed by November 2006, with submittal to Congress in January 2008.

Caloosahatchee Backpumping with STA. The Caloosahatchee Backpumping with STA Project includes pump stations and a stormwater treatment area in the C-43 Basin in Hendry and Glades Counties. The initial design of the stormwater treatment area assumed 5,000 acres with the water level fluctuating up to 4 feet above grade. The final size, depth and configuration of this facility will be determined through more detailed planning and design. This project has not started, however the Master Implementation Schedule shows that the PMP is scheduled to be completed in September 2005 and the PIR is scheduled to be completed in February 2008.

Central Lake Belt Storage Area. The purpose of the Central Lake Belt Storage Area Project is to store excess water from Water Conservation Areas 2 and 3 and provide environmental water supply deliveries to Northeast Shark River Slough, WCA 3B and to Biscayne Bay. Due to the source of the water (WCAs 2 and 3), it is assumed that water stored in this facility is of adequate quality to return to the Everglades Protection Area and Biscayne Bay; however, the final size, depth and configuration of these facilities, including treatment requirements, will be determined through more detailed planning and design. Except for the acquisition of 31 acres of land during Fiscal Year 2003, this project has not started. The Master Implementation Schedule shows that the PMP is scheduled to be completed in September 2011 and the PIR is scheduled to be completed in March 2014.

Everglades Agricultural Area Storage Reservoirs - Part 1. Part 1 of the Everglades Agricultural Area (EAA) Storage Reservoir Project has two components: conveyance capacity increases for the Miami, North New River, Boles and Cross canals; and an above-ground reservoir that will provide for irrigation requirements in the EAA, environmental deliveries of water to the WCAs, storage of regulatory releases from Lake Okeechobee and increased flood protection within the EAA. The PMP for this project was completed in January 2002 (USACE and SFWMD, 2002i). The PIR process was initiated in February 2002. Activities during Fiscal Year 2003 included model calibration, wetlands assessment and reporting on existing environmental conditions. The SFWMD is working to identify a design/build partner for project implementation, which could result in initiation of construction in 2004 and completion in 2009. The draft PIR/NEPA Report is expected to be completed in July 2005 with final closeout in April 2007.

Everglades Agricultural Area Storage Reservoirs – Part 2. The purpose of the Everglades Agricultural Area Storage Reservoirs – Part 2 Project is to further improve the timing of environmental deliveries to the Water Conservation Areas, including reducing damaging flood releases from the Everglades Agricultural Area to the Water Conservation Areas and reducing Lake Okeechobee regulatory releases to the estuaries. This project has not started, however the Master Implementation Schedule shows that the PMP is scheduled for completion in March 2005 and the PIR is scheduled for completion in September 2007.

Everglades National Park Seepage Management. The Everglades National Park Seepage Management Project includes relocating and enhancing L-31N, groundwater wells and sheetflow delivery adjacent to Everglades National Park. More detailed planning, design and pilot studies will be conducted to determine the appropriate technology to control seepage from Everglades National Park. These studies and tests will also determine the appropriate amount of wet season groundwater flow control that will minimize potential impacts to Miami-Dade County's West Well field and freshwater flows to Biscayne Bay. This project has not started, however the Master Implementation Schedule shows that the PMP is scheduled for completion in December 2006 and the PIR is scheduled for completion in September 2008.

Florida Keys Tidal Restoration. The Florida Keys Tidal Restoration Project will enhance the ecological functions of the nearshore waters of the Florida Keys by restoring tidal connections that were eliminated by the construction of Flagler's Railroad in the early 1900s. Four sites have been identified in the middle keys along U.S. Highway 1 in Monroe County. Tidal restoration will improve water quality, enhance the health and composition of benthic communities, restore circulation, improve larval distribution, and determine the viability of other tidal restoration projects in the Florida Keys. The PMP was completed in April 2002 (USACE and SFWMD, 2002j). The PIR process was initiated in April 2002, and work has progressed toward selection of the best site for alternative development. The draft PIR/NEPA is expected to be completed in March 2004. A draft schedule is being developed to determine whether the PIR can be completed by December 2004 to allow for a Fiscal Year 2005 construction new start.

Flow to Northwest and Central WCA 3A. The purpose of the Flow to Northwest and Central WCA 3A project is to environmental water supply availability, increase depths and extend wetland hydropatterns in the northwest corner and west-central portions of Water Conservation Area 3A by increasing the capacity of the G-404 pump station and increasing the capacity and relocating the S-140 pump station. A spreader canal system at S-140 will reestablish sheetflow to the west-central portion of WCA 3A. The PMP was initiated in October 2002, but was stopped in March 2003.

Hillsboro Aquifer Storage and Recovery. The Hillsboro ASR Project includes a series of aquifer storage and recovery wells and associated pre- and post-water quality treatment adjacent to the reservoir or along the Hillsboro Canal. The initial design of the aquifer storage and recovery facility assumed 30 well clusters, each with a capacity of 5 million gallons per day, with chlorination for pre-treatment and aeration for post-treatment. The location, extent of treatment and final number of the aquifer storage and recovery wells may be modified based on findings from the Hillsboro ASR Pilot Project. The Master Implementation Schedule shows that the PMP for the Hillsboro ASR Project is expected to be completed in October 2009 and the PIR is anticipated to be completed in May 2011.

Indian River Lagoon – South. The Indian River Lagoon - South Project will improve surface water management in the C-23, C-24, C-25 and C-44 basins for habitat improvement in the St. Lucie Estuary and the Indian River Lagoon. The recommended plan includes reservoirs, STAs, natural water storage areas and muck removal. This project is the detailed design associated with the Indian River Lagoon - South Feasibility Study (USACE and SFWMD, 2002m). Internal review of the PMP was completed in February 2003 and approval was received in June 2003. Also during Fiscal Year 2003, 8,209 acres of land were acquired. The Final Feasibility Report will be renamed to a PIR and Supplement to the Environmental Impact Statement (SEIS) that will include WRDA 2000 requirements as well as an updated C-44 site feature. The draft PIR/SEIS is scheduled to be issued in December 2003, with the completed PIR/SEIS to be forwarded to the South Atlantic Division and Headquarters-USACE in March 2004.

Lake Istokpoga Regulation Schedule. The goal of the Lake Istokpoga Regulation Schedule Project was to develop a plan to address water resource problems in the Lake Istokpoga basin. The PMP was scheduled for completion in July 2003; however, an evaluation of the water resources problems in Lake

Istokpoga and past studies ed to the conclusion that meaningful solutions will require actions beyond operational modifications that can be addressed in a regulation schedule review. Therefore, the Lake Istokpoga Regulation Schedule Review Project is being incorporated into the Lake Okeechobee Watershed Project. This will enable efficient consideration of operational and structural solutions that address water resources issues in both lakes.

Lake Okeechobee Aquifer Storage and Recovery. The purpose of the Lake Okeechobee ASR Project is to: provide additional regional storage while reducing evaporation losses and the amount of land removed from current land use that would be associated with above-ground storage reservoirs; increase the Lake's water storage capability to better meet regional water supply demands for agriculture, Lower East Coast urban areas and the Everglades; manage a portion of regulatory releases from the Lake primarily to improve Everglades hydropatterns and to meet supplemental water supply demands of the Lower East Coast; reduce harmful regulatory discharges to the St. Lucie and Caloosahatchee estuaries; and maintain and enhance the existing level of flood protection. This project has not started, however the Master Implementation Schedule shows that the PMP is scheduled to be completed in May 2010 and the PIR is scheduled to be completed in October 2013.

Lake Okeechobee Watershed. The Lake Okeechobee Watershed Project will reduce phosphorus loading to Lake Okeechobee, attenuate peak flows from the watershed, provide more natural water levels and restore wetland habitat. This will be accomplished through: a reservoir in the lower Kissimmee Basin; a reservoir and STA in the Taylor Creek/Nubbin Slough Basin; smaller Reservoir-Assisted Stormwater Treatment Areas (RASTAs) and restoration of isolated wetlands; and removal of 150 tons of phosphorus from 10 miles of primary tributary canals. The PMP was completed in July 2001 (USACE and SFWMD, 2001j). During Fiscal Year 2003, work to update the PMP to include the scope, schedule and costs for the Lake Istokpoga Regulation Schedule was in progress. The Watershed Assessment Report, the first step in the PIR process, was completed in July 2003 to more precisely define water quality and hydrologic problems in the watershed. The Taylor Creek/Nubbin Slough RASTA has been authorized as one of the ten initial projects in WRDA 2000. The PIR for the Taylor Creek/Nubbin Slough portion of this project is expected to be completed in December 2005, and work should be completed by May 2010. The PIR for the rest of the project is expected to be completed in September 2006. The entire project should be completed by June 2013.

Loxahatchee National Wildlife Refuge Internal Canal Structures. The Loxahatchee National Wildlife Internal Canal Structures Project includes two water control structures in the northern ends of the perimeter canals encircling the Loxahatchee National Wildlife Refuge (WCA-1) located in Palm Beach County. The purpose of this project is to improve the timing and location of water depths within the Refuge. It is assumed that these structures will remain closed except to pass Stormwater Treatment Area 1 East and Stormwater Treatment Area 1 West outflows and water supply deliveries to the coastal canals. This project has not started; however, the Master Implementation Schedule shows that the PMP is scheduled to be completed in September 2003 and the PIR is scheduled to be completed in December 2004.

Modify Holey Land Wildlife Management Area Operation Plan. The Modify Holey Land Wildlife Management Area Operation Plan Project consists of a modification to the current operating plan for Holey Land Wildlife Management Area to implement rain-driven operations for this area. Water deliveries are made to Holey Land from the Rotenberger Wildlife Management Area or from Stormwater Treatment Areas 3 and 4 if Rotenberger flows are insufficient and the water quality of the deliveries is assumed to be acceptable. These new operational rules are intended to improve the timing and location of water depths within the Holey Land Wildlife Management Area. This project has not started.

Modify Rotenberger Wildlife Management Area Operation Plan. The Modify Rotenberger Wildlife Management Area Operation Plan Project consists of a modification to the current operating plan

for Rotenberger Wildlife Management Area to implement rain-driven operations for this area. Water deliveries are made to Rotenberger from Stormwater Treatment Area 5. Discharges from Rotenberger are made to the Holey Land Wildlife Management Area. The deliveries are assumed to be of acceptable water quality. These new operational rules are intended to improve the timing and location of water depths within the Rotenberger Wildlife Management Area. This project has not started.

North Lake Belt Storage Area. The purpose of the North Lake Belt Storage Area Project is to capture and store a portion of the stormwater runoff from the C-6, Western C-11 and C-9 Basins. The stored water will be used to maintain stages during the dry season in the C-9, C-6, C-7, C-4 and C-2 Canals and to provide water deliveries to Biscayne Bay to aid in meeting salinity targets. This project has not yet started; however, the Master Implementation Schedule shows that the PMP is scheduled to be completed in September 2011 and the PIR is scheduled to be completed in March 2014.

North Palm Beach County - Part 1. The purposes of the North Palm Beach County – Part 1 Project are to increase water supplies to the Grassy Waters Preserve and Loxahatchee Slough, provide flows to enhance hydro-periods in the Loxahatchee Slough, increase base flows to the Northwest Fork of the Loxahatchee River and reduce high discharges to the Lake Worth Lagoon. This project includes six separable elements: Pal Mar and J.W. Corbett Wildlife Management Area Hydropattern Restoration; C-51 and Southern L-8 Reservoir; Lake Worth Lagoon Restoration; C-17 Pumping and Treatment; L-8 Basin Modifications; and C-51 Pumping and Treatment. The PMP is in the final stages of completion; however, early authorization was granted to proceed with the PIR phase of the project. Further, approval was granted to move forward with work on the L-8 Reservoir Testing Project prior to approval of the PMP to gather data necessary for the PIR. Also during Fiscal Year 2003, 1,220 acres of land were acquired for this project. The PMP is scheduled to be completed in December 2003.

North Palm Beach County – Part 2. The North Palm Beach County – Part 2 Project includes two separable elements: the C-51 Regional Groundwater ASR system; and the L-8 Basin ASR system to provide additional long-term storage within the North Palm Beach County region. The purpose of the C-51 Regional Groundwater ASR element is to capture and store excess flows from the C-51 Canal, currently discharged to the Lake Worth Lagoon, for later use during dry periods. The purpose of the L-8 Basin ASR element is to increase water supply availability and moderate water level within the West Palm Beach Water Catchment Area. It will also provide flows to enhance hydroperiods in the Loxahatchee Slough, increase base flows to the Northwest Fork of the Loxahatchee River and reduce high discharges to the Lake Worth Lagoon. During periods when the West Palm Beach Water Catchment Area is above desirable stages. This project has not started, however the Master Implementation Schedule shows that the PMP is scheduled to be complete in October 2009 and the PIR is scheduled to be complete in April 2012.

Palm Beach County Agricultural Reserve Reservoir. The Palm Beach County Agricultural Reserve Reservoir Project includes an above-ground reservoir in the western portion of the Palm Beach County Agricultural Reserve. The initial design for the reservoir assumed 1,660 acres with water levels fluctuating up to 12 feet above grade. The final size, depth and configuration of these facilities will be determined through more detailed planning and design. This project has not started, however, the Master Implementation Schedule shows that the PMP is scheduled for completion in June 2006 and the PIR is scheduled for completion in May 2008.

Site 1 Impoundment. The purpose of the Site 1 Impoundment project is to supplement water deliveries to the Hillsboro Canal by capturing and storing excess water currently discharged to the Intra-coastal Waterway. These supplemental deliveries will reduce demands on Lake Okeechobee and the Loxahatchee National Wildlife Refuge. The impoundment pool will provide groundwater recharge, reduce seepage from adjacent natural areas and prevent saltwater intrusion. Some measure of flood protection may also be provided along with water quality improvements. The PMP for this project was

initiated during July 2002 and it is scheduled to be completed in November 2003. The Notice of Intent to Prepare NEPA was issued in August 2003. The draft PIR/NEPA Report is expected to be completed in May 2004, with submittal to Congress expected in January 2006.

Southern Golden Gate Estates Hydrologic Restoration. The objective of the Southern Golden Gate Estates Hydrologic Restoration Project is to reestablish historic flowways, sheetflow and hydroperiods of wetlands; reduce point discharges to improve the health and productivity of downstream estuaries; improve aquifer recharge for water supply and prevention of saltwater intrusion; and maintain flood protection in areas north of the project. The primary components of the restoration plan are land acquisition, construction of pumping stations, canal plugs, spreader channels and removal of roads. Further, an ecological and hydrological monitoring program will be initiated to determine the project's effectiveness, and adaptive management practices will ensure desirable ecological responses. The PMP was approved in March 2001 (USACE and SFWMD, 2001k). A conceptual restoration plan developed by the SFWMD in 1996 forms the basis of the project, and is being refined as part of the PIR of the project. The SFWMD held a groundbreaking for early start work by backfilling Prairie Canal during 2003. The SFWMD has decided to construct Phase I of the Tamiami Trail Culverts and incorporate this work into the PIR for the Southern Golden Gate Estates project. The draft PIR/NEPA Report is scheduled for completion in December 2003.

Strazzulla Wetlands. The Strazzulla Wetlands separable element includes water control structures and land acquisition to provide a hydrologic and ecological connection to the Loxahatchee National Wildlife Refuge and expand the spatial extent of protected natural areas. This land will act as a buffer between higher water stages to the west and lands to the east that must be drained. This increase in spatial extent will provide vital habitat connectivity for species that require large unfragmented tracts of land for survival. It also contains the only remaining cypress habitat in the eastern Everglades and one of the few remaining sawgrass marshes adjacent to the coastal ridge. The PMP for this project was initiated in November 2002, and it is expected to be completed in December 2003.

WCA 3A and 3B Flows to Central Lake Belt. The WCA 3A and 3B Flows to Central Lake Belt component captures excess water in WCA 3A and 3B to reduce the excess above target stages in WCA 3 and diverts water through modified structures at S-9 and S-31 to Central Lake Belt Storage Area via L-37 and L-33 Borrow Canals. This component consists of one structure each in the L-37 and L-33 levees to manage the diversion of water to the Central Lake Belt Storage Area or, on an interim basis, Shark River Slough. Analysis revealed that this feature has some interim benefits, but none substantial to support it as a stand-alone project. In April 2003, this component was placed on hold until February 2004. Further discussions will determine the most feasible place for this component..

WCA-3 Decomp and Sheetflow Enhancement - Part 1. Part 1 of the WCA-3 Decomp and Sheetflow Enhancement Project will reestablish the ecological and hydrologic connection between WCA-3A, WCA-3B and Everglades National Park. A more natural sheetflow and hydroperiod for both WCA-3 and Everglades National Park will be provided through the planning and implementation of this project. The PMP was completed in April 2002 (USACE and SFWMD, 2002k). The PIR process was initiated in April 2002. The PIR for the eastern Tamiami Trail portion of the project was planned to be completed in November 2004; and the PIR for the canal and levee modifications was planned to be completed in January 2006. This project was placed on hold pending resolution of a flood mitigation endeavor known as the Modified Water Deliveries Project 8.5 Square Mile Area. Accordingly, work during Fiscal Year 2003 was largely limited to the development of models, collection of baseline data and development of performance measures.

Other CERP Projects for which the SFWMD is not the Local Sponsor

Henderson Creek / Belle Meade Restoration. Changes in land use within the primary watersheds draining into Rookery Bay have been identified as the highest priority resource issue that threatens the long-term preservation of the research reserve's estuarine resources. The Henderson Creek/Belle Meade Restoration project will increase historic sheetflow to the estuary, treatment of stormwater, improvement of water quality and increase in habitat value and wetland functions. This project is being sponsored between the USACE and the FDEP. The PMP for this project was scheduled to be completed in February 2004; however the currently forecast schedule now calls for PMP initiation in April 2004 and completion in November 2004.

Lakes Park Restoration. The Lakes Park Restoration Project was authorized under WRDA 2000. This feature includes the construction of an approximate 25-acre marsh/flowway in an abandoned rock mine, removal of exotic vegetation and planting of native vegetation on 11 acres of uplands and 9 acres of littoral zone. This feature is located in the Lee County Lakes Regional Park, upstream of Estero Bay. Lee County is the local sponsor for this project. The PMP was initiated in May 2003 and is expected to be completed in December 2004.

Melaleuca Eradication and Other Exotic Plants. The Melaleuca Eradication and Other Exotic Plants Project is a four-part plan to control invasive exotic plant species in south Florida. The four parts include: design and construction of a new facility for bio-control research of invasive exotic plants for the University of Florida in Ft. Pierce; design and construction of the upgrade and renovation oat the existing Florida Department of Agriculture and Consumer Services bio-control facility in Gainesville; mass rearing and controlled release of biological agents throughout south Florida; and preparation of a report to further identify overall problems with exotic invasive plants and provide a recommendation regarding further federal involvement. The PMP for this project is expected to be completed in January 2004.

Miccosukee Water Management Area. The Miccosukee Water Management Area is a project to construct a managed wetland on the Miccosukee Tribe's Alligator Alley Reservation to provide water storage capacity and water quality enhancement for waters which discharge into the Everglades Protection Area. The project will convert approximately 900 acres of tribally owned cattle pastures into a wetland retention / detention area, which will be designed to filter out harmful nutrients contained in stormwater runoff before the water enters the Everglades Protection Area. Tribal Water Quality Standards dictate a numerical criterion of ten parts per billion for total phosphorous inside the Everglades Protection Area. The Miccosukee Water Management Area was sized to treat the nutrient inputs of the Miccosukee Tribal lands.

Restoration of Pineland and Hardwood Hammocks in C-111 Basin. The Restoration of Pineland and Hardwood Hammocks in C-111 Basin Project involves restoring approximately 50 acres of south Florida slash pine and tropical hardwood hammock species on a 200-foot wide strip on each side of the two miles of State Road 9336 from the C-111 Canal to the L-31W Canal. This project will demonstrate the techniques required to re-establish native conifer and tropical hardwood forests on land that has been rock plowed. An agreement between the USACE and Miami-Dade County is pending for this project.

Seminole Tribe Big Cypress Reservation Water Conservation Plan. The Seminole Tribe Big Cypress Reservation Water Conservation Plan Project is designed to achieve environmental restoration on the Reservation, the Big Cypress Preserve, and the central and southern Everglades. In addition, the project will reduce flood damage and promote water conservation on the Reservation. The overall plan has been divided into east and west portions, each of which can provide independent benefits. Due to the legislated funding limits of the Critical Projects program, only the west portion of this project was nominated as a Critical Project. The Seminole Tribe has also requested the assistance of the Natural Resources Conservation Service (NRCS) to implement the eastern portion of the plan. An agreement

between the Seminole Tribe and the USACE is pending for this project, and a construction award is expected in 2004.

South Miami-Dade Reuse. The South Miami-Dade Reuse feature will provide additional water supply to the South Biscayne Bay and Coastal Wetlands Enhancement Project. In order to attain the superior level of treatment, construction of an add-on pre-treatment and membrane treatment system to the existing secondary treatment facility will be necessary. Superior water quality treatment features will be based on appropriate pollution load reduction targets necessary to protect downstream receiving surface waters (Biscayne Bay). An agreement between the USACE and Miami-Dade County for this project is pending.

West Miami-Dade Reuse. The West Miami-Dade Reuse feature will meet the demands for the Bird Drive Recharge Area, the South Dade Conveyance System and the Northeast Shark River Slough. When all demands have been met, the plant will stop treatment beyond secondary treatment standards and will dispose of the secondary treated effluent into deep injection wells. An agreement between the USACE and Miami-Dade County is pending for this project.

Winsberg Farms Wetlands Restoration. The Winsberg Farms Wetlands Restoration Project will create 140 acres of wetlands using water from the Palm Beach County Southern Region Water Reclamation Facility in the vicinity of the Wakodahatchee Wetland in southern Palm Beach County. The PMP for this project was initiated in January 2002, and is expected to be completed during January 2004.

LITERATURE CITED

SFWMD and FDEP. 2000. *Comprehensive Everglades Restoration Plan Annual Report Pursuant to Section 473.470(7), Florida Statutes*. South Florida Water Management District, West Palm Beach, FL, and Florida Department of Environmental Protection, Tallahassee, FL.

SFWMD and FDEP. 2002. *Comprehensive Everglades Restoration Plan Annual Report Pursuant to Section 473.470(7), Florida Statutes*. South Florida Water Management District, West Palm Beach, FL, and Florida Department of Environmental Protection, Tallahassee, FL.

USACE. 1995. Biscayne Bay, Florida Updated Reconnaissance Report. United States Army Corps of Engineers, Jacksonville District, Jacksonville, FL.

USACE and SFWMD. 1999. *Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement*. United States Army Corps of Engineers, Jacksonville District, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2000a. Design Agreement between the Department of the Army and the South Florida Water Management District for the design of the elements of the Comprehensive Plan for the Everglades and South Florida Ecosystem Restoration Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2000b. Master Program Management Plan. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2000c. Program Controls Management Plan. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001a. Program Management Plan - Geodetic Vertical Controls Survey. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001b. Management Plan for Restoration Coordination and Verification (RECOVER). United States Army Corps of Engineers, Jacksonville District, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001c. Public Outreach Program Management Plan. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001d. Environmental and Economic Equity Program Management Plan. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001e. CERP Master Implementation Schedule, Update 1.0. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL

USACE and SFWMD. 2001f. Project Management Plan – Lake Okeechobee Aquifer Storage and Recovery Pilot Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD, 2001g. Project Management Plan – Caloosahatchee River Aquifer Storage and Recovery Pilot Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001h. Project Management Plan – Western Hillsboro Aquifer Storage and Recovery Pilot Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001i. Draft Integrated Water Preserve Areas Feasibility Study and Supplemental Environmental Impact Statement. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001j. Project Management Plan – Lake Okeechobee Watershed Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001k. Project Management Plan – Southern Golden Gate Estates Hydrologic Restoration Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002a. Program Management Plan – Data Management. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002b. Project Management Plan – Lake Belt In-Ground Reservoir Technology Pilot Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002c. Project Management Plan – L-31N Seepage Management Pilot. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002d. Central and Southern Florida Project Indian River Lagoon - South Feasibility Study Final Integrated Feasibility Report and Supplemental Environmental Impact Statement. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002e. Project Management Plan – Southwest Florida Feasibility Study. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002f. Project Management Plan - Florida Bay and Florida Keys Feasibility Study. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002g. Project Management Plan – C-43 Basin Storage Reservoir. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002h. Project Management Plan – C-111 Spreader Canal. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002i. Project Management Plan – Everglades Agricultural Area Storage Reservoirs Phase 1. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002j. Project Management Plan – Florida Keys Tidal Restoration Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002k. Project Management Plan – WCA-3 Decompartmentalization and Sheet Flow Enhancement Project Phase 1. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002l. Project Management Plan – Biscayne Bay Coastal Wetlands. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2002m. Indian River Lagoon – South Final Feasibility Report and Supplemental Environmental Impact Statement – August 2002. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2003a. Draft Project Management Plan – Wastewater Reuse Technology Pilot Project. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2003b. Project Management Plan – ASR Regional Study. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

RECOVER. 2003a. Draft Performance Measure Documentation Report. RECOVER, c/o South Florida Water Management District, West Palm Beach, FL.

RECOVER. 2003b. Draft Monitoring and Assessment Plan – March 2003. RECOVER, c/o United States Army Corps of Engineers, Jacksonville District, Jacksonville, FL.

RECOVER. 2003c. Proposed Indicators for Interim Goals and Interim Targets for the Comprehensive Everglades Restoration Plan. RECOVER, c/o United States Army Corps of Engineers, Jacksonville District, Jacksonville, FL.

RECOVER. 2003d. RECOVER Regional Evaluation and Report Process. RECOVER, c/o United States Army Corps of Engineers, Jacksonville District, Jacksonville, FL

USACE and SJRWMD. 2003. Project Management Plan – Indian River Lagoon – North Feasibility Study. United States Army Corps of Engineers, Jacksonville, FL, and St. Johns River Water Management District, Palatka, FL.

USACE and FDEP. 2003. Draft Project Management Plan – Comprehensive Integrated Water Quality Feasibility Study – August 2003. United States Army Corps of Engineers, Jacksonville, FL, and Florida Department of Environmental Protection, Tallahassee, FL.

APPENDIX A

PROJECT DESCRIPTIONS

The *Comprehensive Plan* is comprised of 68 major components and six pilot projects representing literally hundreds of project elements. While the purpose of this *Master Program Management Plan* is to provide an overall management strategy to implement the *Comprehensive Everglades Restoration Plan*, the scope of this document is limited to the implementation of 56 components, grouped into 46 projects, for which the South Florida Water Management District has agreed to be the local sponsor. The remaining components will be implemented through other programs, such as the Critical Restoration Projects authority, or implemented with an appropriate local sponsor under separate Design Agreements and Project Management Plans.

In developing the Master Implementation Schedule, it was necessary to reorganize components into projects that would provide immediate and separable benefits. While many of the components already meet this definition of a project, other components were interdependent requiring that they be grouped to form a project. For example, a flow distribution component that will enhance sheetflow into northwest and central Water Conservation Area 3A is dependent on improvements to the G-404 pump station to achieve the level of benefits identified in the CERP. These components were combined to create one project: Flow to Northwest and Central Water Conservation Area 3A. In addition, some components were grouped as a single project to provide the opportunity to generate a more efficient design of the components. For example, the non-Aquifer Storage and Recovery components within North Palm Beach County were combined into the North Palm Beach County Project to address the interdependencies and tradeoffs between the different components and provide a more efficient design of the project.

Other components were separated into multiple projects in order to accelerate the implementation of separable elements of that component. For instance, due to the need to conduct the Aquifer Storage and Recovery Pilot Project, the Hillsboro Site 1 Storage Reservoir and Aquifer Storage and Recovery component was separated into the Site 1 Impoundment Project (Part 1) and the Hillsboro Aquifer Storage and Recovery Project (Part 2).

1.0 PROJECT DESCRIPTIONS

The resulting 40 projects and six pilot projects to be implemented under this *Master Program Management Plan* are listed in **Table A-1** and described

below. The component designation that was used throughout the planning of the *Comprehensive Plan* is included in parentheses, e.g. (A). Other Project Elements are identified as (OPE). Additional project information will be maintained on the www.evergladesplan.org web site. Examples of such project information include more detailed project descriptions, project documents, regional context of projects, current status and project managers.

Table A-1. Projects Covered by the Master Program Management Plan

WBS	PROJECT NAME	RESTUDY COMPONENT
01	Lake Okeechobee Watershed	A, W, LOWQTF, LOTSD
02	Lake Istokpoga Regulation Schedule	OPE
03	Lake Okeechobee Aquifer Storage & Recovery	GG
04	C-43 Basin Storage Reservoir - Part 1	D P1
05	C-43 Basin Aquifer Storage & Recovery - Part 2	D P2
06	Caloosahatchee Backpumping With Stormwater Treatment	DDD
07	Indian River Lagoon - South	B, UU
08	Everglades Agricultural Area Storage Reservoirs - Phase 1	G P1
09	Everglades Agricultural Area Storage Reservoirs - Phase 2	G P2
10	Big Cypress / L-28 Interceptor Modifications	CCC
11	Flow To NW & Central WCA 3A	II, RR
12	WCA 3 Decomp & Sheetflow Enhancement - Part 1	AA, QQ P1, SS
13	WCA 3 Decomp & Sheetflow Enhancement - Part 2	QQ P2
14	Loxahatchee National Wildlife Refuge Internal Canal Structures	KK
15	Modify Holey Land Wildlife Management Area Operation Plan	DD
16	Modify Rotenberger Wildlife Management Area Operation Plan	EE
17	North Palm Beach County - Part 1	X, Y, GGG, Pal-Mar, LWL, K P1
18	North Palm Beach County - Part 2	K P2, LL
19	Not Active	
20	PBC Agriculture Reserve Reservoir - Part 1	VV P1
21	PBC Agriculture Reserve Aquifer Storage & Recovery - Part 2	VV P2
22	Hillsboro Aquifer Storage & Recovery - Part 2	M P2
23	Flows to Eastern Water Conservation Area	EEE
24	Broward Co. Secondary Canal System	CC
25	North Lake Belt Storage Area	XX P2
26	Central Lake Belt Storage	S P2
27	Everglades National Park Seepage Management	V, FF
28	Biscayne Bay Coastal Wetlands	FFF/OPE
29	C-111 Spreader Canal	WW

Table A-1. Projects Covered by the Master Program Management Plan

WBS	PROJECT NAME	RESTUDY COMPONENT
30	Southern Golden Gate Estates Hydrologic Restoration	OPE
31	Florida Keys Tidal Restoration	OPE
32	Lake Okeechobee ASR Pilot	Pilot
33	Caloosahatchee (C-43) River ASR Pilot	Pilot
34	Hillsboro ASR Pilot	Pilot
35	Lake Belt In-Ground Reservoir Technology Pilot	Pilot
36	L-31N Seepage Management Pilot	Pilot
37	Wastewater Reuse Technology Pilot	Pilot
38	Acme Basin B Discharge	OPE
39	Strazzulla Wetlands	OPE
40	Site 1 Impoundment	M P1
41	Not Active	
42	Not Active	
43	Bird Drive Recharge Area	U
44	ASR Regional Study	N/A
45	Broward County WPA	O, Q, R
46	C-4 Structure	T
47	WCA 3A/3B Flows to Central Lake Belt (CLB)	ZZ
48	WCA 2B Flows to Everglades National Park (ENP)	YY
49	WPA Conveyance	BB, S P1, XX P2

Figure A-1 is a map showing the location of the Comprehensive Everglades Restoration Plan projects.

1.1 Lake Okeechobee Watershed (A, W, LOWQTF, LOTSD)

The Lake Okeechobee Watershed Project includes two *Project Implementation Reports*: *The Taylor Creek/Nubbin Slough Storage and Treatment Area Project Implementation Report* and the *Lake Okeechobee Project Implementation Report*. These *Project Implementation Reports* were combined for an opportunity to generate a more efficient design of the elements and address the interdependencies and tradeoffs inherent in a project of this size.

Lake Okeechobee Project Implementation Report (A, OPE). This *Project Implementation Report* includes the elements that were formerly knows as the North of Lake Okeechobee Storage Reservoir, the Lake Okeechobee Watershed Water Quality Treatment Facility and the Lake Okeechobee Tributary Sediment Dredging. The descriptions for each of the former elements are provided below.

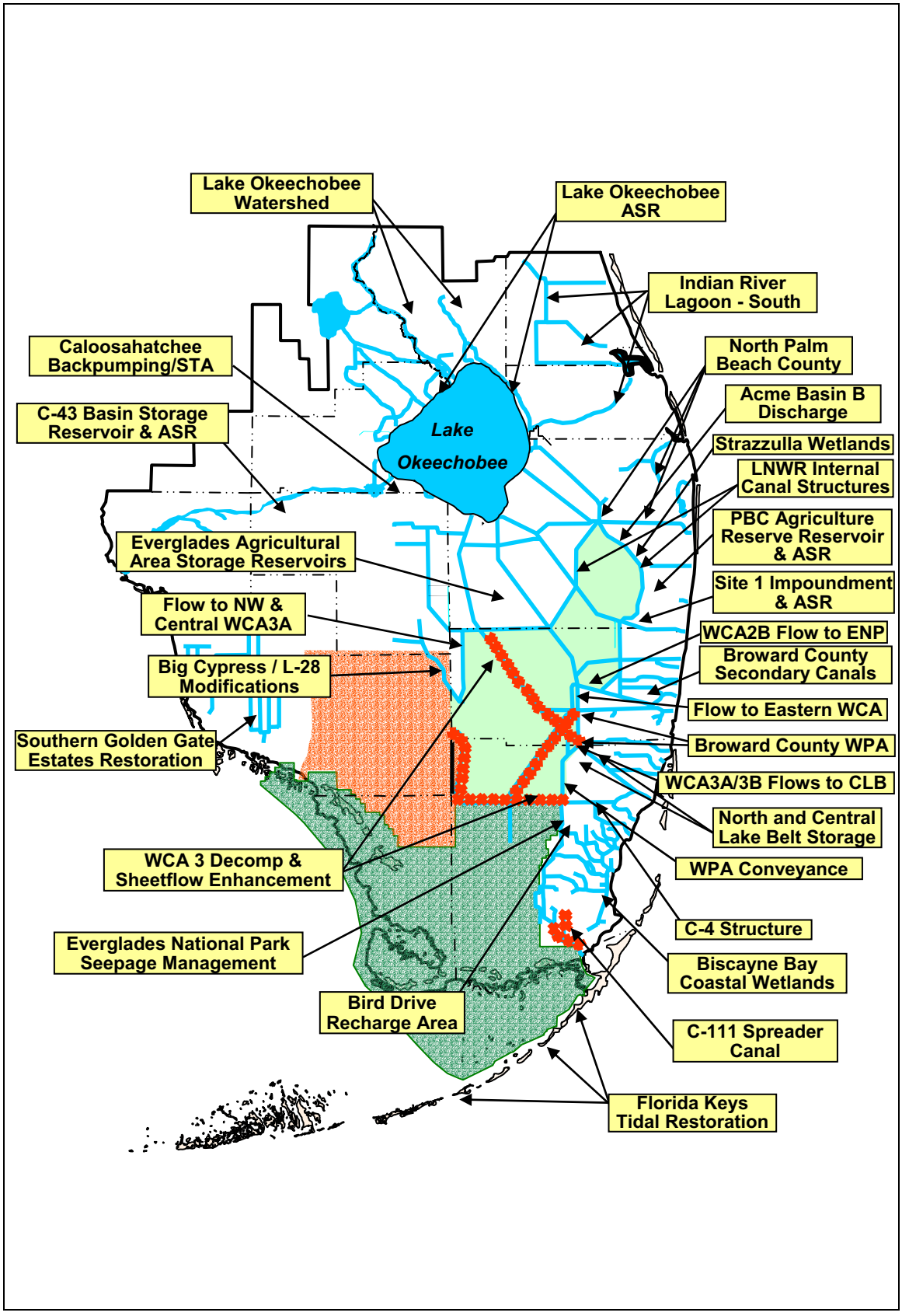

Figure A-1. Comprehensive Everglades Restoration Plan Project Locations

North of Lake Okeechobee Storage Reservoir (A): This separable element includes an above ground reservoir and a 2,500-acre stormwater treatment area. The total storage capacity of the reservoir is approximately 200,000 acre-feet and is located in the Kissimmee River Region, north of Lake Okeechobee. The specific location of this facility has not been identified, however, it is anticipated that the facility will be located in Glades, Highlands, or Okeechobee Counties. The initial design of this separable element assumed a 20,000-acre facility (17,500-acre reservoir and 2,500-acre treatment area) with water levels in the reservoir fluctuating up to 11.5 feet above grade. The final size, depth and configuration of this facility will be determined through more detailed planning, land suitability analyses, and design. Future detailed planning and design activities will also include an evaluation of degraded water bodies within the watersheds of the storage/ treatment facility to determine appropriate pollution load reduction targets, and other water quality restoration targets for the watershed.

The purpose of this facility is to detain water during wet periods for later use during dry periods and reduce nutrient loads flowing to the lower Kissimmee River and Lake Okeechobee. This increased storage capacity will reduce the duration and frequency of both high and low water levels in Lake Okeechobee that are stressful to the Lake's littoral ecosystems and cause large discharges from the Lake that are damaging to the downstream estuary ecosystems. Depending upon the proposed location(s) of this water storage/treatment facility and pollutant loading conditions in the watershed(s), the facility could be designed to achieve significant water quality improvements, consistent with appropriate pollution load reduction targets.

The operation of this separable element assumes that water from Lake Okeechobee, the Kissimmee River or the S-65E drainage basin will be pumped into the storage reservoir/stormwater treatment area when the climate-based inflow model forecasts that the Lake water levels will rise significantly above desirable levels for the Lake littoral zone. Water held in the reservoir and stormwater treatment area will not be released until the lake levels decline to ecologically acceptable levels.

Lake Okeechobee Watershed Water Quality Treatment Facilities (OPE): This separable element includes two reservoir-assisted stormwater treatment areas and plugging of select local drainage ditches. The initial design of these reservoir-assisted stormwater treatment areas assumes a 1,775-acre facility in the S-154 Basin in Okeechobee County and a 2,600- acre facility in the S-65D sub-basin of the Kissimmee River Basin in Highlands and Okeechobee Counties. The plugged drainage ditches will result in restoration of approximately 3,500 acres of wetlands throughout the Lake Okeechobee watershed basin. This separable element is also consistent with the recommendations of the South Florida Ecosystem Restoration Working Group's Lake Okeechobee Issue Team for achieving water quality restoration

objectives in the Lake and should provide significant long-term water quality benefits for the Lake.

The other portion of this separable element includes the purchase of conservation easements within four key basins of Lake Okeechobee to restore the hydrology of isolated wetlands by plugging the connection to drainage ditches and the diversion of canal flows to adjacent wetlands. The sites range in size from an individual wetland to an entire sub-basin and are located within the lower Kissimmee River Basins (S-65D, S-65E, and S-154) and Taylor Creek/Nubbin Slough Basin (S-191).

The purpose of this separable element is to attenuate peak flows and retain phosphorus before flowing into Lake Okeechobee. Further, many of the wetlands in the Lake Okeechobee watershed have been ditched and drained for agriculture water supply and flood control. This separable element will restore the hydrology of selected isolated and riverine wetlands in the region by plugging these drainage ditches.

The South Florida Ecosystem Restoration Working Group's Lake Okeechobee Issue Team identified six primary tributary basins (C-41 Basin, Fisheating Creek, Taylor Creek/Nubbin Slough, S-154 Basin, S-65D (Pool D) Basin, S-65E (Pool E) Basin) contributing significant phosphorus loads to the Lake. In order to further reduce nutrient loading to Lake Okeechobee in support of the water quality goals for the Lake, articulated in the Lake Okeechobee Surface Water Improvement Management Plan, there are potentially other reservoir-assisted stormwater treatment area facilities needed in the Lake Okeechobee watershed (such as in the C-41 and Fisheating Creek Basins) that are not included in this construction separable element. Therefore, it is proposed that a comprehensive plan for the Lake Okeechobee watershed is developed before the final configuration of this construction separable element is implemented. A comprehensive Lake Okeechobee watershed plan would include elements of the Lake Okeechobee Surface Water Management Plan and remediation programs developed to achieve appropriate pollution reduction targets established for the Lake.

Lake Okeechobee Tributary Sediment Dredging (OPE): This separable element includes the dredging of sediments from 10 miles of primary canals within an eight-basin area in the northern watershed of Lake Okeechobee. The initial design assumes that the dredged material will contain approximately 150 tons of phosphorus.

The purpose of this separable element is to remove phosphorous in canals located in areas of the most intense agriculture in the Lake Okeechobee watershed. These sediments presently contribute to the excessive phosphorus loading to Lake Okeechobee. Under separate funding, the SFWMD is planning a demonstration project consisting of sedimentation traps to

determine the feasibility of phosphorous removal by this method. The project will be a two-year demonstration with construction starting in FY2000. Upon completion in 2001, the traps will be operated and monitored to determine effectiveness. If feasible, findings from this demonstration will be incorporated into the design for this separable element. This separable element is also consistent with the water quality restoration goals for the Lake included in the Lake Okeechobee Surface Water Management Plan and subsequently developed by the Lake Okeechobee Issue Team. Implementation of this separable element will also complement other activities associated with pollution reduction for the Lake.

Taylor Creek/Nubbin Slough Storage and Treatment Area Project Implementation Report (W). This *Project Implementation Report* includes an above ground reservoir with a total storage capacity of approximately 50,000 acre-feet and a stormwater treatment area with a capacity of approximately 20,000 acre-feet in the Taylor Creek/Nubbin Slough Basin. The initial design of this separable element assumed a reservoir of 5,000 acres with water levels fluctuating up to 10 feet above grade and a stormwater treatment facility of approximately 5,000 acres. The final size, depth and configuration of this separable element will be determined through more detailed planning, land suitability analysis and design.

The purpose of this separable element is to attenuate flows to Lake Okeechobee and reduce the amount of nutrients flowing to the Lake. The separable element is designed to capture, store, and treat basin runoff during periods when levels in Lake Okeechobee are high or increasing. The water quality treatment element of this separable element is consistent with the recommendations of the South Florida Ecosystem Restoration Working Group's Lake Okeechobee Issue Team and the Pollution Load Reduction Goals for Lake Okeechobee developed for the Lake Okeechobee Surface Water Improvement and Management Plan (SFWMD, 1997f). The water held in the reservoir would be released to Lake Okeechobee when lake levels decline to ecologically acceptable levels.

1.2 Lake Istokpoga Regulation Schedule (OPE)

This project includes the development of a plan to address water resource problems in the Lake Istokpoga Basin. Lake Istokpoga is a natural lake located in Highlands County, a tributary of Lake Okeechobee and the Kissimmee River. The major focus of this plan is to create a balance between the environmental needs, water supply and flood control in the Lake Istokpoga drainage basin.

The purpose of this plan is to examine the Lake Istokpoga Basin with a view towards enhancing fish and wildlife benefits and developing a long-term comprehensive management plan. It has been noted that operation of S-68,

beginning in 1962, reduced the maximum annual fluctuation of the Lake (SFWMD, 1978). While the littoral zone expanded, the amount of quality habitat was reduced by the formation of extensive floating tussocks and dense cattail communities. Persistently lowered lake levels have reduced the natural frequency of seasonal drying and inundation. Without natural lake level fluctuations, germination of diverse aquatic plant seeds is reduced, consolidation and compaction of organic sediments cannot occur, and the formation and expansion of floating mats of water hyacinths and other species common to tussock communities are promoted. These mats reduce overall productivity and diversity of the marsh.

The plan will also address the need for flood protection for the perimeter and upstream tributaries, and for downstream areas west and east of C-41A. The plan addresses water supply needs for both the agriculture and the Seminole Tribe of Florida.

1.3 Lake Okeechobee Aquifer Storage and Recovery (GG)

This project includes a series of aquifer storage and recovery wells in the Lake Okeechobee basin with a total capacity of 1-billion gallons per day and associated pre- and post- water quality treatment in Glades, Okeechobee, and Martin counties. The initial design assumes 200 wells, each with the capacity of 5 million gallons per day with ultrafiltration water quality pre-treatment facilities and aeration for post-treatment. Based on information from existing aquifer storage and recovery facilities studied, it is assumed that recovery of aquifer-stored water would have no adverse effects on water quality conditions in Lake Okeechobee. In fact, some level of nutrient load reduction may occur as a result of aquifer storage, which would be a long-term benefit to in- lake water quality conditions. The level and extent of treatment and number of the aquifer storage and recovery wells may be modified based on findings from the Lake Okeechobee Aquifer Storage and Recovery Pilot Project and the ASR Regional Study. The pilot project will also investigate changes to water chemistry resulting from aquifer storage and identify post-retrieval water quality treatment requirements, if any, necessary to implement aquifer storage and recovery facilities. The *Comprehensive Plan* includes pilot studies to investigate the feasibility of the aquifer storage and recovery facilities, including water quality changes associated with aquifer storage and recovery.

The purpose of this project is to: 1) provide additional regional storage while reducing both evaporation losses and the amount of land removed from current land use (e.g. agriculture) that would normally be associated with construction and operation of above-ground storage reservoirs; 2) increase the Lake's water storage capability to better meet regional water supply demands for agriculture, Lower East Coast urban areas and the Everglades; 3) manage a portion of regulatory releases from the Lake primarily to improve

Everglades hydropatterns and to meet supplemental water supply demands of the Lower East Coast; 4) reduce harmful regulatory discharges to the St. Lucie and Caloosahatchee Estuaries and 5) maintain and enhance the existing level of flood protection.

The operation of this project assumes that after treatment, water from Lake Okeechobee will be injected into the upper Floridan Aquifer when the climate-based inflow model forecasts that the Lake water level will rise significantly above those levels that are desirable for the Lake littoral zone. During the dry season, water stored in the Floridan Aquifer will be returned to the Lake after aeration either when the Lake water level is projected to fall to within three quarters of a foot of the supply-side management line or below an established water level during the dry season.

1.4 C-43 Basin Storage Reservoir - Part 1 (D - Part 1)

This project is the first part of the C-43 Basin Storage Reservoir and ASR component. The project includes an above ground reservoir with a total storage capacity of approximately 160,000 acre-feet located in the C-43 Basin in Hendry, Glades, or Lee Counties. The initial design of the reservoir assumed 20,000 acres with water levels fluctuating up to 8 feet above grade. The final size, depth and configuration of this facility will be determined through more detailed planning and design.

The purpose of this project is to capture C-43 Basin runoff and releases from Lake Okeechobee. The reservoir will be designed for water supply benefits, some flood attenuation, to provide environmental water supply deliveries to the Caloosahatchee Estuary, and water quality benefits to reduce salinity and nutrient impacts of runoff to the estuary. It is assumed that, depending upon the location of the reservoir and pollutant loading conditions in the watershed, the reservoir could be designed to achieve significant water quality improvements, consistent with appropriate pollution load reduction targets.

Excess runoff from the C-43 Basin and Lake Okeechobee flood control discharges will be pumped into the proposed reservoir. Lake Okeechobee will meet any estuarine demands, not met by basin runoff as long as the lake stage is above a pre-determined level. Lake water will also be used to meet the remaining basin demands subject to supply-side management. The C-43 reservoir will also be operated in conjunction with the Caloosahatchee Back-pumping project, which includes a stormwater treatment area for water quality treatment. If the level of water in the reservoir exceeds 6.5 feet and Lake Okeechobee is below a pre-determined level, then water is released and sent to the back-pumping facility.

1.5 C-43 Basin Aquifer Storage and Recovery - Part 2 (D - Part 2)

This project is the second part of the C-43 Basin Storage Reservoir and ASR component. This project includes aquifer storage and recovery wells with a total capacity of approximately 220 million gallons per day and associated pre- and post- water quality treatment located in the C-43 Basin in Hendry, Glades, or Lee Counties. The initial design of the wells assumed 44 wells, each with the capacity of 5 million gallons per day with chlorination for pre-treatment and aeration for post-treatment. The level and extent of treatment and number of the aquifer storage and recovery wells may be modified based on findings from the Caloosahatchee River (C-43) Aquifer Storage and Recovery Pilot Project.

The purpose of this project is to capture C-43 Basin runoff and releases from Lake Okeechobee. The wells will be designed for water supply benefits, some flood attenuation, water quality benefits to reduce salinity and nutrient impacts of runoff to the estuary, and to provide environmental water supply deliveries to the Caloosahatchee Estuary.

Excess runoff from the C-43 Basin and Lake Okeechobee flood control discharges will be pumped into the C-43 Basin Reservoir. Water from the reservoir will be injected into the aquifer storage and recovery wellfield for long-term (multi-season) storage. Any estuarine demands, not met by basin runoff and the aquifer storage and recovery wells, will be met by Lake Okeechobee as long as the lake stage is above a pre-determined level. Lake water is also used to meet the remaining basin demands subject to supply-side management.

1.6 Caloosahatchee Backpumping with Stormwater Treatment (DDD)

This project includes pump stations and a stormwater treatment area with a total capacity of approximately 20,000 acre-feet located in the C-43 Basin in Hendry and Glades Counties. The initial design of the stormwater treatment area assumed 5,000 acres with the water level fluctuating up to 4 feet above grade. The final size, depth and configuration of this facility will be determined through more detailed planning and design.

The purpose of this feature is to capture excess C-43 Basin runoff, which will be used to augment regional system water supply. Backpumping will only occur after estuary and agricultural/urban demands have been met in the basin and when water levels in the C-43 storage reservoir exceed 6.5 feet above grade. Further, Lake Okeechobee water levels must be within a specified range to accept this water so as to not impact ecological resources.

When these conditions are met, a series of pump stations will back-pump excess water from the reservoir and the C-43 Basin to Lake Okeechobee after treatment through a stormwater treatment area. The stormwater treatment area will be designed to meet Lake Okeechobee phosphorus and other pollutant loading reduction targets consistent with the Surface Water Improvement and Management Plan for the Lake and future appropriate pollution load reduction targets which may be developed for the Lake and the watershed in which the facility is to be located.

1.7 Indian River Lagoon - South (B, UU)

The Indian River Lagoon Project consists of construction features, operational modifications, real estate requirements, an adaptive assessment and monitoring program, and operation and maintenance of the completed project organized around the three basins that were studied under the Indian River Lagoon South Feasibility Study.

1.7.1 C-44 Basin

The recommended plan includes four components within the C-44 Basin. These components include the C-44 West Reservoir and Stormwater Treatment Area, C-44 East Stormwater Treatment Area, and Palmar Complex – Natural Storage and Water Quality Treatment Area. It should be noted that the C-44 canal flows both to the SLE through S-80 and to Lake Okeechobee through S-308. All of the features in the C-44 Basin are located within Martin County. C-23/24 Basin

The recommended plan includes six components within the C-23/24 Basin. These components include the C-23 North Reservoir, C-23 South Reservoir, C-23/24 Stormwater Treatment Area, C-23/44 Stormwater Treatment Area and Diversion Canal, Cypress Creek Complex - Natural Storage and Water Quality Treatment Area, and Allapattah Complex - Natural Storage and Water Quality Treatment Area. An operational feature of the IRL – South Plan know as the northern and southern diversions are accomplished via use of the construction features described for this basin. The C-23/44 Stormwater Treatment Area and Diversion Canal and the Allapattah – Natural Storage and Water Quality Treatment Area are located in Martin County. The balance of the C-23/24 Basin features are located in St. Lucie County.

1.7.2 C-25 & Northfork & Southfork Basin

The recommended plan includes three components within the C-25 Basin and Northfork and Southfork Basins of the St. Lucie River. These components include the C-25 Reservoir and Stormwater Treatment Area, Muck Remediation and Artificial Habitat, and North Fork Floodplain Restoration.

1.8 Everglades Agricultural Area Storage Reservoirs (G - Phase 1)

This project is the first part of the of the Everglades Agricultural Area Storage Reservoir component. It includes two above ground reservoirs with a total storage capacity of approximately 240,000 acre-feet located on land associated with the Talisman Land purchase in the Everglades Agricultural Area. Conveyance capacity increases for the Miami, North New River, Bolles and Cross Canals are also included in the design of this project. The initial design for the reservoir(s) assumed 40,000 acres, divided into two, equally sized compartments with water levels fluctuating up to 6 feet above grade in each compartment. However, actual design and construction of this first phase may result in multiple reservoirs by maximizing the use of the land acquired through the Farm Bill land acquisition agreements which encompasses up to 50,000 acres.

This project is located in the Everglades Agricultural Area in western Palm Beach County on lands purchased with Department of Interior Farm Bill funds, with South Florida Water Management District funds, and on lands gained through a series of exchanges for lands being purchased with these funds. The area presently consists of land that is mostly under sugar cane cultivation. Implementation of this project will be consistent with the Farm Bill land acquisition agreements. This project will improve timing of environmental deliveries to the Water Conservation Areas by reducing damaging flood releases from the Everglades Agricultural Area to the Water Conservation Areas, reducing Lake Okeechobee regulatory releases to estuaries, meeting supplemental agricultural irrigation demands, and increasing flood protection within the Everglades Agricultural Area.

Compartment 1 of the reservoir would be used to meet Everglades Agricultural Area irrigation demands. The source of water is excess Everglades Agricultural Area runoff. Overflows to Compartment 2 could occur when Compartment 1 reaches capacity and Lake Okeechobee regulatory discharges are not occurring or impending. Compartment 2 would be used to meet environmental demands as a priority, but could supply a portion of Everglades Agricultural Area irrigation demands if environmental demands equal zero. Flows will be delivered to the Water Conservation Areas through Stormwater Treatment Areas 3 and 4. The sources of water are overflow from Compartment 1 and Lake Okeechobee regulatory releases. Compartment 2 will be operated as a dry storage reservoir and discharges made down to 18 inches below ground level.

1.9 Everglades Agricultural Area Storage Reservoirs (G - Phase 2)

This project is the second part of the Everglades Agricultural Area Storage Reservoir component. It includes an above-ground reservoir with a total storage capacity of approximately 120,000 acre-feet located in the Everglades Agricultural Area in western Palm Beach County. The initial design for the reservoir assumed 20,000 acres, which would make-up the third compartment of the storage the Everglades Agricultural reservoir, with water levels fluctuating up to six feet above grade. The need for this compartment will be determined through more detailed planning and design after Part 1 is completed.

The purpose of this project is to further improve the timing of environmental deliveries to the Water Conservation Areas, including reducing damaging flood releases from the Everglades Agricultural Area to the Water Conservation Areas and reducing Lake Okeechobee regulatory releases to the estuaries.

This last increment of storage would be used to meet environmental demands as a priority. The sources of water for this reservoir are overflow from the Part 1 reservoirs and Lake Okeechobee regulatory releases only during extreme wet events. This project will be operated as a dry storage reservoir and discharges made down to 18 inches below ground level. The project can also be designed to provide a water quality treatment function, augmenting the performance of the Everglades Construction Project and ensuring protection of water quality in the Everglades Protection Area. Design of this project for water quality performance will be based on water quality targets for the Everglades Construction Project and other water quality targets developed to protect designated uses in Everglades Agricultural Area waters.

1.10 Big Cypress / L-28 Interceptor Modifications (CCC)

This project includes modification of levees and canals, water control structures, pumps, and stormwater treatment areas with a total storage capacity of 7,600 acre-feet located within and adjacent to the Miccosukee and Seminole Indian Reservations in Collier and Hendry Counties. The initial design of the stormwater treatment areas assumed a total acreage of 1,900 acres with the water level fluctuating up to 4 feet above grade. Conceptual sizes of the stormwater treatment areas were based on interim phosphorus concentration targets in the conceptual plan for the Everglades Construction Project. The final size, depth and configuration of this facility, including the stormwater treatment areas, will be determined through more detailed planning and design. Design of the stormwater treatment areas will be based on water quality criteria of the Seminole Tribe and criteria applicable to Big Cypress National Preserve, as appropriate.

The purpose of this project is to re-establish sheetflow from the West Feeder Canal across the Big Cypress Reservation and into the Big Cypress National Preserve, maintain flood protection on Seminole Tribal lands, and ensure that inflows to the North and West Feeder Canals meet applicable water quality standards. Consistency with the Seminole Tribe's Conceptual Water Conservation System master plan will be maintained.

Upstream flows entering the West and North Feeder Canals will be routed through two stormwater treatment areas to be located at the upstream ends of the canals. Sheetflow will be re-established south of the West Feeder Canal by a system to be developed consistent with the Seminole Tribe's Conceptual Water Conservation System master plan. After conversion to a pump station, S-190 will also push flows south into the L-28 Interceptor Canal where sheetflow to the southwest will also be re-established with backfilling and degradation of the southwest levee of the canal.

1.11 Flow to NW and Central WCA 3A (II, RR)

This project includes relocation and modifications to pump stations and development of a spreader canal system located in the northwest corner and west-central portions of Water Conservation Area 3A in western Broward County.

The purpose of this project is to increase environmental water supply availability, increase depths and extend wetland hydropatterns in the northwest corner and west-central portions of Water Conservation Area 3A.

Additional flows will be directed to the northwest corner and west central portions of Water Conservation Area 3A by increasing the capacity of the G-404 pump station, currently a part of the Everglades Construction Project, and increasing the capacity and relocating the S-140 pump station. A spreader canal system at S-140 will reestablish sheetflow to the west-central portion of Water Conservation Area 3A. Water quality treatment of flows is assumed to be provided by the Everglades Construction Project and water quality treatment strategies developed to fulfill the Non-Everglades Construction Project requirements of the Everglades Forever Act. If additional treatment were determined to be required as a result of future detailed planning and design work, those existing facilities would be modified to provide the necessary treatment.

1.12 WCA 3 Decomp and Sheetflow Enhancement - Part 1 (AA, QQ - Part 1, SS)

Part 1 of the Water Conservation Area 3 Decompartmentalization and Sheetflow Enhancement Project includes the modification or removal of

levees, canals, and water control structures in Water Conservation Area 3A and B located in western Broward County. This project includes backfilling the Miami Canal in Water Conservation Area 3 from one to two miles south of the S- 8 pump station down to the East Coast Protective Levee. To make up for the loss of water supply conveyance to the Lower East Coast urban areas from the Miami Canal, the capacity of the North New River Canal within Water Conservation Area 3A will be doubled to convey water supply deliveries to Miami-Dade County as necessary. Modifications will also be made to the eastern section of Tamiami Trail which includes elevating the roadway through the installation of a series of bridges between L-31N Levee and the L-67 Levees. The eastern portion of L-29 Levee and Canal will also be degraded in the same area as the Tamiami Trail modifications.

The purpose of this project is to restore sheetflow and reduce unnatural discontinuities in the Everglades landscape. The project includes raising and bridging portions of Tamiami Trail and filling in portions of the Miami Canal within Water Conservation Area 3. Due to the dependencies of components, this project would be implemented with the Water Preserve Areas Project that would create a bypass for water supply deliveries to Miami Canal using the North New River Canal.

1.13 WCA 3 Decomp and Sheetflow Enhancement - Part 2 (QQ - Part 2)

Part 2 of the Water Conservation Area 3 Decompartmentalization and Sheetflow Enhancement Project includes the modification or removal of levees, canals, and water control structures in Water Conservation Area 3A located in western Broward County. This project includes backfilling the southern 7.5 miles of L-67A Borrow Canal, removal of the L-68A, L-67C, the western portion of L-29 below Water Conservation Area 3A, L-28, and L-28 Tieback Levees and Borrow Canals, and elevating the western portion of Tamiami Trail below Water Conservation Area 3A. Eight passive weir structures will be located along the entire length of L-67A to promote sheetflow from Water Conservation Area 3A to 3B during high flow conditions and additional water control structures will be added to the southern end of L-67A to allow for flow during extreme dry events.

The purpose of these features is to re-establish the ecological and hydrological connection between Water Conservation Areas 3A and 3B, the Everglades National Park, and Big Cypress National Preserve. The compartmentalization of the Water Conservation Areas has contributed to the loss of historic overland flows of the central Everglades slough system. This alteration of flows has resulted in temporal changes in hydropatterns and hydroperiods in the historic deepwater, central axis of the Shark River Slough system. This component adds conveyance to Water Conservation Area 3B to help re-

establish natural hydroperiods and hydropatterns in the Water Conservation Areas and Shark River Slough.

1.14 Loxahatchee National Wildlife Refuge Internal Canal Structures (KK)

This project includes two water control structures in the northern ends of the perimeter canals encircling the Loxahatchee National Wildlife Refuge (Water Conservation Area 1) located in Palm Beach County.

The purpose of this project is to improve the timing and location of water depths within the Refuge. It is assumed that these structures will remain closed except to pass Stormwater Treatment Area 1 East and Stormwater Treatment Area 1 West outflows and water supply deliveries to the coastal canals.

1.15 Modify Holey Land Wildlife Management Area Operation Plan (DD)

This project consists of a modification to the current operating plan for Holey Land Wildlife Management Area to implement rain-driven operations for this area. Water deliveries are made to Holey Land from the Rotenberger Wildlife Management Area or from Stormwater Treatment Area 3 & 4 if Rotenberger flows are insufficient and the water quality of the deliveries are assumed to be acceptable. These new operational rules are intended to improve the timing and location of water depths within the Holey Land Wildlife Management Area.

1.16 Modify Rotenberger Wildlife Management Area Operation Plan (EE)

This project consists of a modification to the current operating plan for Rotenberger Wildlife Management Area to implement rain-driven operations for this area. Water deliveries are made to Rotenberger from Stormwater Treatment Area 5. Discharges from Rotenberger are made to the Holey Land Wildlife Management Area. The deliveries are assumed to be of acceptable water quality. These new operational rules are intended to improve the timing and location of water depths within the Rotenberger Wildlife Management Area.

1.17 North Palm Beach County - Part 1 (X, Y, GGG, Pal-Mar, LWL, K - Part 1)

This project includes a number of separable elements including Pal-Mar and J.W. Corbett Wildlife Management Area Hydropattern Restoration, Water

Preserve Areas / L-8 Basin, Lake Worth Lagoon Restoration, C-17 Backpumping and Treatment, C-51 Back-pumping and Treatment, and C-51 Regional Groundwater Aquifer Storage and Recovery. These separable elements have been combined into a single project to address the interdependencies and tradeoffs between the different elements and provide a more efficient design of the overall project.

Pal-Mar and J.W. Corbett Wildlife Management Area Hydropattern Restoration (OPE). This element includes water control structures, canal modifications and the acquisition of 3,000 acres located between Pal-Mar and the J.W. Corbett Wildlife Management Area in Palm Beach County.

The purpose of this separable element is to provide hydrologic connections between the Corbett Wildlife Management Area and: (1) the Moss Property, (2) the C-18 Canal, (3) the Indian Trail Improvement District, and (4) the L-8 Borrow Canal, in addition to extending the spatial extent of protected natural areas. These connections would relieve the detrimental effects on native vegetation frequently experienced during the wet season and form an unbroken 126,000-acre greenbelt extending from the Dupuis Reserve near Lake Okeechobee across the J.W. Corbett Wildlife Management Area and south to Jonathan Dickinson State Park.

C-51 and Southern L-8 Reservoir (K - Part 1 and GGG). This separable element includes a combination above ground and in-ground reservoir. The project has a total storage capacity of 48,000 acre-feet located immediately west of the L-8 Borrow Canal and north of the C-51 Canal in Palm Beach County. Other construction projects include a series of pumps, water control structures and canal capacity improvements in the M Canal. The initial design for the reservoir assumed a 1,800-acre reservoir with 1,200 of usable acres and water levels fluctuating from 10 feet above grade to 30 feet below grade. The final size, depth and configuration of this facility will be determined through more detailed planning and design.

The purpose of this separable element is to increase water supply availability and flood protection for northern Palm Beach County areas. It will also provide flows to enhance hydroperiods in the Loxahatchee Slough, increase base flows to the Northwest Fork of the Loxahatchee River and reduce high discharges to the Lake Worth Lagoon.

Water will be pumped into the reservoir from the C-51 Canal and Southern L-8 Borrow Canal during the wet season, or periods when excess water is available, and returned to the C-51 and Southern L-8 during dry periods. Additional elements will also direct excess water into the West Palm Beach Water Catchment Area. The reservoir portion of this component may be implemented under a previous authorization.

Lake Worth Lagoon Restoration (OPE). This separable element includes sediment removal and trapping within the C-51 Canal and sediment removal or trapping within a 2.5 mile area downstream of the confluence of the C-51 Canal and the Lake Worth Lagoon located in Palm Beach County. A prototype facility will be conducted to determine if the Lagoon sediments will either be removed or trapped.

The purpose of this separable element is to improve water quality and allow for the re- establishment of sea grasses and benthic communities. The elimination of the organically enriched sediment from the C-51 Canal discharge will provide for long term improvements to the Lagoon and enable success for additional habitat restoration and enhancement projects planned by Palm Beach County.

C-17 Backpumping and Treatment (X). This separable element includes backpumping facilities and a stormwater treatment area with a total storage capacity of approximately 2,200 acre-feet located in northeastern Palm Beach County. The initial design for the stormwater treatment area assumed 550 acres with water levels fluctuating up to four feet above grade. The final size, depth and configuration of this facility will be determined through more detailed planning and design, and will address appropriate pollution load reduction targets necessary to protect receiving waters (West Palm Beach Water Catchment Area).

The purpose of this separable element is to increase water supplies to the West Palm Beach Water Catchment Area and Loxahatchee Slough by capturing and storing excess flows currently discharged to the Lake Worth Lagoon from the C-17 Canal.

Excess C-17 Canal water will be backpumped through existing canals and proposed water control structures to the stormwater treatment area which will provide water quality treatment prior to discharge into the West Palm Beach Water Catchment Area.

C-51 Back-pumping and Treatment (Y). This separable element includes backpumping facilities and a stormwater treatment area with a total storage capacity of approximately 2,400 acre-feet located in Palm Beach County. The initial design for the stormwater treatment area assumed 600 acres in size with the water levels fluctuating up to four feet above grade. The final size, depth and configuration of this facility will be determined through more detailed planning and design, and will address appropriate pollution load reduction targets necessary to protect receiving waters (West Palm Beach Water Catchment Area).

The purpose of this separable element is to increase water supplies to the West Palm Beach Water Catchment Area and Loxahatchee Slough by

capturing and storing excess flows currently discharged to the Lake Worth Lagoon from the C-51 Canal.

Excess C-51 Canal water will be backpumped through existing and proposed water control structures and canals to the stormwater treatment area which will provide water quality treatment prior to discharge into the West Palm Beach Water Catchment Area.

1.18 North Palm Beach County - Part 2 (LL, K - Part 2)

This project includes two separable elements. The C-51 Regional Groundwater Aquifer Storage and Recovery and L-8 Basin Aquifer Storage and Recovery. These projects will provide an additional increment of storage within the North Palm Beach County region.

C-51 Regional Groundwater Aquifer Storage and Recovery (LL).

This separable element includes a series of aquifer storage and recovery wells with a total capacity of 170 million gallons per day as well as associated pre- and post- water quality treatment to be constructed along the C-51 Canal in Palm Beach County. The initial design of the wells assumed 34 wells, each with a capacity of 5 million gallons per day with chlorination for pre-treatment and aeration for post-treatment. The level and extent of treatment and number of the aquifer storage and recovery wells may be modified based on findings from the Hillsboro Site 1 Impoundment and Aquifer Storage and Recovery Pilot Project.

The purpose of this separable element is to capture and store excess flows from the C-51 Canal, currently discharged to the Lake Worth Lagoon, for later use during dry periods.

The aquifer storage and recovery facilities will be used to inject and store surficial aquifer ground water adjacent to the C-51 Canal in the upper Floridan Aquifer instead of discharging the canal water to tide. Water will be returned to the C-51 Canal to help maintain canal stages during the dry-season. If water is not available in the aquifer storage and recovery system, existing rules for water delivery to this region will be applied.

L-8 Basin ASR (K - Part 2). This separable element includes aquifer storage and recovery wells with a total capacity of 50 million gallons per day and associated pre- and post- water quality treatment to be constructed in the City of West Palm Beach. The initial design of the wells assumed 10 wells, each with a capacity of 5 million gallons per day with chlorination for pre-treatment and aeration for post treatment. The level and extent of treatment and number of the aquifer storage and recovery wells may be modified based

on findings from the aquifer storage and recovery pilot projects and the ASR Regional Study.

The purpose of this separable element is to increase water supply availability and flood protection for northern Palm Beach County areas. It will also provide flows to enhance hydroperiods in the Loxahatchee Slough; increase base flows to the Northwest Fork of the Loxahatchee River, and reduces high discharges to the Lake Worth Lagoon.

Water will be pumped into the reservoir from the C-51 Canal and Southern L-8 Borrow Canal during the wet season, or periods when excess water is available, and returned to the C-51 and Southern L-8 during dry periods. Additional separable elements move excess water into the West Palm Beach Water Catchment Area. During periods when the West Palm Beach Water Catchment Area is above desirable stages, 50 million gallons per day will be diverted to Lake Mangonia for storage in the aquifer storage and recovery wells. The reservoir portion of this component may be implemented under a previous authorization.

1.19 Water Preserve Areas (Not Active)

Project number 19 was originally established to track the Water Preserve Area Feasibility Study and the projects that it would ultimately recommend. Now that the implementation strategy has changed, the recommended projects have been assigned their own project numbers and this number will no longer be used.

1.20 PBC Agriculture Reserve Reservoir - Part 1 (VV - Part 1)

This project includes an above ground reservoir with a total storage capacity of approximately 20,000 acre-feet located in the western portion of the Palm Beach County Agricultural Reserve. The initial design for the reservoir assumed 1,660 acres with water levels fluctuating up to 12 feet above grade. The final size, depth and configuration of these facilities will be determined through more detailed planning and design.

The purpose of this project is to supplement water supply deliveries for central and southern Palm Beach County by capturing and storing excess water currently discharged to the Lake Worth Lagoon. These supplemental deliveries will reduce demands on Lake Okeechobee and the Loxahatchee National Wildlife Area. It is assumed that this facility could also be designed to achieve water quality improvements in downstream receiving waters, depending upon pollutant loading conditions in the watershed.

The reservoir will be filled during the wet season with excess water from the western portions of the Lake Worth Drainage District and possibly from Acme Basin B. Water will be returned to the Lake Worth Drainage District canals to help maintain canal stages during the dry-season. If water is not available in the reservoir, existing rules for water delivery to this region will be applied.

1.21 PBC Agriculture Reserve Aquifer Storage and Recovery - Part 2 (VV - Part 2)

This project includes aquifer storage and recovery wells with a total capacity of 75 million gallons per day and associated pre- and post- water quality treatment located adjacent to the reservoir. The initial design of the wells assumed 15 wells, each with a capacity of 5 million gallons per day as well as chlorination for pre-treatment and aeration for post-treatment. The source of water to be injected is surficial ground water adjacent to the Palm Beach County Agricultural Reserve Reservoir. The level and extent of treatment and number of the aquifer storage and recovery wells may be modified based on findings from the aquifer storage and recovery pilot projects and the ASR Regional Study.

The purpose of this project is to supplement water supply deliveries for central and southern Palm Beach County by capturing and storing excess water currently discharged to the Lake Worth Lagoon. These supplemental deliveries will reduce demands on Lake Okeechobee and the Loxahatchee National Wildlife Refuge.

The wells will pump water into the aquifer during the wet season and will pump water from the aquifer to the Lake Worth Drainage District canals to help maintain canal stages during the dry season. If water is not available in the aquifer storage and recovery wells, existing rules for water delivery to this region will be applied.

1.22 Hillsboro Aquifer Storage and Recovery - Part 2 (M - Part 2)

This project includes a series of aquifer storage and recovery wells with a total capacity of approximately 150 million gallons per day and associated pre- and post- water quality treatment which will be located adjacent to the reservoir or along the Hillsboro Canal. The initial design of the aquifer storage and recovery facility assumed 30 wells, each with a capacity of 5 million gallons per day with chlorination for pre-treatment and aeration for post-treatment. The source of water to be injected is in the surficial ground water adjacent to the reservoir. The location, extent of treatment, and final number of the aquifer storage and recovery wells may be modified based on findings from the Hillsboro Aquifer Storage and Recovery Pilot Project.

The purpose of this project is to supplement water deliveries to the Hillsboro Canal during dry periods thereby reducing demands on Lake Okeechobee and the Loxahatchee National Wildlife Refuge. Water will be pumped into the aquifer during the wet season or periods when excess water is available. Water will be released back to the reservoir or Hillsboro Canal to help maintain canal stages during the dry season.

1.23 Flows to Eastern Water Conservation Area (EEE)

This project combines a number of components that include pumps, water control structures, canals and conveyance improvements located adjacent to Water Conservation Area 2 and 3 in Broward County. The final size and configuration of these facilities will be determined through more detailed planning and design to be completed as a part of the Water Preserve Areas Feasibility Study.

The purpose of this project is to attenuate high stages in Water Conservation Areas 2 and 3 and transport this excess water to Central Lake Belt Storage Area where it will be stored to meet downstream demands in Shark River Slough, Water Conservation Area 3B, or Biscayne Bay.

When stages in Water Conservation Areas 2B, 3A and 3B exceed target depths, water will be diverted to the Central Lake Belt Storage Area or to other downstream areas through water control structures and conveyance projects. Water supply deliveries will be made first to Northeast Shark River Slough, then to Water Conservation Area 3B and finally to Biscayne Bay, if flows are available. It is assumed that the water to be diverted from Water Conservation Area 2 and 3 is of adequate quality to return to the Everglades Protection Area and Biscayne Bay; however, the final size, depth and configuration of these facilities, including treatment requirements, will be determined through more detailed planning and design.

1.24 Broward County Secondary Canal System (CC)

This project includes a series of water control structures, pumps, and canal improvements located in the C-9, C-12 and C-13 Canal Basins and east basin of the North New River Canal in central and southern Broward County.

The purpose of this project is to reduce water discharges by recharging local wellfields and stabilizing the saltwater interface. Excess water in the basins will be pumped into the coastal canal systems to maintain canal stages at optimum levels. When basin water is not sufficient to maintain canal stages, the canals will be maintained from other construction projects such as the (Site1) Impoundment and the North Lake Belt Storage Area and then from Lake Okeechobee and the Water Conservation Areas.

1.25 North Lake Belt Storage Area (XX - Part 2)

This project includes canals, pumps, water control structures, and an in-ground storage reservoir with a total capacity of approximately 90,000 acre-feet located in Miami-Dade County. The initial design of the reservoir assumed 4,500 acres with water levels fluctuating from ground level to 20 feet below grade. A subterranean seepage barrier will be constructed around the perimeter to enable drawdown during dry periods, to prevent seepage losses, and to prevent water quality impact due to the high transmissivity of the Biscayne Aquifer in the area. The reservoir will be located within an area proposed for rock mining. A pilot test of this component will be conducted prior to final design to determine construction technologies, storage efficiencies, impacts upon local hydrology, and water quality effects. The water quality assessment will include a determination as to whether the in-ground reservoir with perimeter seepage barrier will allow storage of untreated runoff. The final size, depth and configuration of these facilities including treatment facilities will be determined through more detailed planning and design.

The purpose of this project is to capture and store a portion of the stormwater runoff from the C- 6, Western C-11 and C-9 Basins. The stored water will be used to maintain stages during the dry season in the C-9, C-6, C-7, C-4 and C-2 Canals and to provide water deliveries to Biscayne Bay to aid in meeting salinity targets.

Runoff is pumped and gravity fed into the in-ground reservoir from the C-6 (west of Florida's Turnpike), Western C-11 and C-9 Basins. Outflows from the facility will be directed into the C- 9 Stormwater Treatment Area/ Impoundment for treatment prior to delivery to the C-9, C-7, C-6, C-4 and C-2 Canals. If necessary, additional stormwater treatment areas will be constructed adjacent to the in-ground reservoir.

1.26 Central Lake Belt Storage (S - Part 2)

This project includes pumps, water control structures, a stormwater treatment area, and a combination above ground and in-ground storage reservoir with a total storage capacity of approximately 190,000 acre-feet located in Miami-Dade County. The initial design of the reservoir assumed 5,200 acres with water levels fluctuating from 16 feet above grade to 20 feet below grade. A subterranean seepage barrier will be constructed around the perimeter to enable drawdown during dry periods and to prevent seepage losses. A pilot test of this technology will be conducted prior to final design of this component to determine construction technologies, storage efficiencies, impacts upon local hydrology, and water quality effects. Since this facility is to be located within the protection area of Miami-Dade County's Northwest Wellfield, the pilot test will also be designed to identify and address potential

impacts to the County's wellfield which may occur during construction and/or operation. The stormwater treatment area was assumed to be 640 acres with the water level fluctuating up to 4 feet above grade. The final size, depth and configuration of these facilities will be determined through more detailed planning and design.

The purpose of the project is to store excess water from Water Conservation Areas 2 and 3 and provide environmental water supply deliveries to: 1) Northeast Shark River Slough, 2) Water Conservation Area 3B, and 3) to Biscayne Bay, in that order, if available. Due to the source of the water (Water Conservation Areas 2 and 3), it is assumed that water stored in this facility is of adequate quality to return to the Everglades Protection Area and Biscayne Bay; however, the final size, depth and configuration of these facilities, including treatment requirements, will be determined through more detailed planning and design.

Excess water from Water Conservation Areas 2 and 3 will be diverted into the L-37, L-33, and L-30 borrow canals, which run along the eastern boundaries of the Water Conservation Areas, and pumped into the Central Lake Belt Storage Area. Water supply deliveries will be pumped through a stormwater treatment area prior to discharge to the Everglades via the L-30 borrow canal and a reconfigured L-31N borrow canal. If available, deliveries will be directed to Biscayne Bay through the Snapper Creek Canal at Florida's Turnpike. A structure will be provided on the Snapper Creek Canal to provide regional system deliveries when water from the Central Lake Belt Storage Area is not available.

1.27 Everglades National Park Seepage Management (V, FF)

This project includes relocating and enhancing L-31N, groundwater wells, and sheetflow delivery system adjacent to Everglades National Park located in Miami-Dade County. More detailed planning, design and pilot studies will be conducted to determine the appropriate technology to control seepage from Everglades National Park. These studies and tests will also determine the appropriate amount of wet season groundwater flow control that will minimize potential impacts to Miami-Dade County's West Wellfield and freshwater flows to Biscayne Bay.

The purpose of this project is to improve water deliveries to Northeast Shark River Slough and restore wetland hydropatterns in Everglades National Park by reducing levee and groundwater seepage and increasing sheetflow.

This project reduces levee seepage flow across L-31N adjacent to Everglades National Park via a levee cutoff wall. Groundwater flows during the wet season are captured by ground water wells adjacent to L-31N and pumped back to Everglades National Park. Water from upstream natural areas will be

diverted into a buffer area adjacent to Everglades National Park where sheetflow will be reestablished. Further, this project includes relocation of the Modified Water Deliveries structure S-357 to provide more effective water deliveries to Everglades National Park. New discharges to Everglades National Park will be designed to meet applicable water quality criteria.

1.28 Biscayne Bay Coastal Wetlands (FFF, OPE)

This project includes pump stations, spreader swales, stormwater treatment areas, flowways, levees, culverts, and backfilling canals located in southeast Miami-Dade County and covers 13,600 acres from the Deering Estate at C-100C, south to the Florida Power and Light Turkey Point power plant, generally along L-31E.

The purpose of this project is to rehydrate wetlands and reduce point source discharge to Biscayne Bay. The proposed project will replace lost overland flow and partially compensate for the reduction in groundwater seepage by redistributing, through a spreader system, available surface water entering the area from regional canals. The proposed redistribution of freshwater flow across a broad front is expected to restore or enhance freshwater wetlands, tidal wetlands, and nearshore bay habitat. Sustained lower-than-seawater salinities are required in tidal wetlands and the nearshore bay to provide nursery habitat for fish and shellfish. This project is expected to create conditions that will be conducive to the re-establishment of oysters and other components of the oyster reef community. Diversion of canal discharges into coastal wetlands is expected not only to re-establish productive nursery habitat all along the shoreline but also to reduce the abrupt freshwater discharges that are physiologically stressful to fish and benthic invertebrates in the bay near canal outlets.

More detailed analyses will be required to define target freshwater flows for Biscayne Bay and the wetlands within the redistribution system. The target(s) will be based upon the quality, quantity, timing and distribution of flows needed to provide and maintain sustainable biological communities in Biscayne Bay, Biscayne National Park and the coastal wetlands. Additionally, potential sources of water for providing freshwater flows to Biscayne Bay will be identified and evaluated to determine their ability to provide the target flows.

The component Biscayne Bay Coastal Canals as modeled in D-13R and the Critical Project on the L-31E Flowway Redistribution are smaller components of the Biscayne Bay Coastal Wetlands project described above.

1.29 C-111 Spreader Canal (WW)

This project includes levees, canals, pumps, water control structures, and a stormwater treatment area to be constructed, modified or removed in the Model Lands and Southern Glades (C-111 Basin) area of Miami-Dade County. This project enhances the C-111 Project design for the C- 111N Spreader Canal with the construction of a stormwater treatment area, the enlarging of pump station S-332E and the extension of the canal under U.S. Highway 1 and Card Sound Road into the Model Lands. The initial design of this project pumps water from the C-111 and the C- 111E Canals into a stormwater treatment area prior to discharging to Southern Everglades and Model Lands. This projects also calls for filling in the southern reach of the C-111 Canal and removal of structures S-18C and S-197. The final size, depth, location and configuration of this project will be determined through more detailed planning and design.

The purpose of this project is to improve deliveries and enhance the connectivity and sheetflow in the Model Lands and Southern Glades areas, reduce wet season flows in C-111, and decrease potential flood risk in the lower south Miami-Dade County area.

1.30 Southern Golden Gate Estates Hydrologic Restoration (OPE)

This project includes a combination of spreader channels, canal plugs, road removal and pump stations in the Western Basin and Big Cypress, Collier County, south of I-75 and north of U.S. 41 between the Belle Meade Area and the Fakahatchee Strand State Preserve.

The purpose of this project is to restore and enhance the wetlands in Golden Gate Estates and in adjacent public lands by reducing over-drainage. Implementation of the restoration plan would also improve the water quality of coastal estuaries by moderating the large salinity fluctuations caused by freshwater point discharge of the Fahka Union Canal. The plan would also aid in protecting the City of Naples' eastern Golden Gate wellfield by improving groundwater recharge.

1.31 Florida Keys Tidal Restoration (OPE)

This project includes the use of bridges or culverts to restore the tidal connection between Florida Bay and the Atlantic Ocean in Monroe County. The four locations are as follows: 1) Tarpon Creek, just south of Mile Marker 54 on Fat Deer Key (width 150 feet); 2) unnamed creek between Fat Deer Key and Long Point Key, south of Mile Marker 56 (width 450 feet); 3) tidal connection adjacent to Little Crawl Key (width 300 feet); and 4) tidal

connection between Florida Bay and Atlantic Ocean at Mile Marker 57 (width 2,400 feet).

The purpose of this project is to restore the tidal connection that was eliminated in the early 1900's during the construction of Flagler's railroad. Restoring the circulation to areas of surface water that have been impeded and stagnant for decades will significantly improve water quality, benthic floral and faunal communities, larval distribution of both recreational and commercial species (i.e. spiney lobster), and the overall hydrology of Florida Bay.

1.32 Lake Okeechobee ASR Pilot

This project is multi-purpose and provides benefits to environmental, urban and agricultural users. The pilot project is necessary to identify the most suitable sites for the aquifer storage and recovery wells in the vicinity of Lake Okeechobee and to identify the optimum configuration of those wells. Additionally, the pilot project will determine the specific water quality characteristics of waters to be injected, the specific water quality characteristics and amount of water recovered from the aquifer, and the water quality characteristics of the receiving aquifer. Further information from the pilot project will provide the hydrogeological and geotechnical characteristics of the upper Floridan Aquifer System within the region, and the ability of the upper Floridan Aquifer System to maintain injected water for future recovery.

1.33 Caloosahatchee (C-43) River ASR Pilot

Aquifer Storage and Recovery wells are proposed in order to maximize the benefits associated with the C-43 Basin Storage Reservoir. A pilot project is necessary to identify the most suitable sites for the aquifer storage and recovery wells in the vicinity of the reservoir and to determine the optimum configuration of those wells. The pilot project will provide information regarding the hydrogeologic characteristics of the Floridan aquifer system within the Caloosahatchee River Basin. The pilot project will also determine the specific water quality characteristics of waters to be injected, stored, and recovered.

1.34 Hillsboro ASR Pilot

The Hillsboro Site 1 above ground impoundment will operate in conjunction with multiple aquifer storage and recovery wells to maximize the benefits of the impoundment. A pilot project for these wells is necessary to determine the most suitable sites for the aquifer storage and recovery wells in the vicinity of the impoundment and to determine the optimum configuration of those wells. The identification of the hydrogeological characteristics of the soils and

aquifer will also be determined. The pilot project will also determine the specific water quality characteristics of water within the aquifer as well as the quality of water proposed for injection and the water quality characteristics of water recovered from the aquifer.

1.35 Lake Belt In-Ground Reservoir Technology Pilot

Several projects recommend the use of areas where lime rock mining will have occurred. The initial design of these reservoirs includes subterranean seepage barriers around their perimeter in order to enable drawdown during dry periods, prevent seepage losses, and prevent water quality impacts due to transmissivity of the aquifer in these areas.

The pilot project is required to determine construction technologies, storage efficiencies, impacts on local hydrology, and water quality effects. Water quality assessments will include a determination as to whether the in-ground reservoirs and seepage barriers will allow for storage of untreated waters without concern for groundwater contamination.

1.36 L-31N Seepage Management Pilot

The purpose of this project is to reduce levee seepage flow across L-31N adjacent to Everglades National Park via a levee cutoff wall. Additionally, the project was designed to reduce groundwater flows during the wet season by capturing them with a series of groundwater wells adjacent to L-31N, then back-pumping those flows to Everglades National Park. The pilot project is necessary to determine the appropriate technology to control seepage from Everglades National Park. The pilot project will also provide necessary information to determine the appropriate amount of wet season groundwater flow to return that will minimize potential impacts to Miami-Dade County's West Wellfield and freshwater flows to Biscayne Bay.

1.37 Wastewater Reuse Technology Pilot

This pilot project will address water quality issues associated with discharging reclaimed water into natural areas such as the Biscayne Bay Coastal Wetlands and the Bird Drive Basin as well as determine the level of superior treatment and the appropriate methodologies for that treatment. A series of studies will be conducted to help determine the level of treatment needed.

Pilot facilities will be constructed to determine the ecological effects of using superior, advanced treated reuse water to replace and augment freshwater flows to Biscayne Bay and to determine the level of superior, advanced treatment required to prevent degradation of freshwater and estuarine

wetlands and Biscayne Bay. The constituents of concern in wastewater will be identified and the ability of superior, advanced treatment to remove those constituents will be determined.

1.38 Acme Basin B Discharge (OPE)

This project includes construction of a wetland or chemical treatment area and a storage impoundment with a combined total storage capacity of 3,800 acre-feet located adjacent to the Loxahatchee National Wildlife Refuge in Palm Beach County. The initial design for the treatment area and impoundment assumed 310 acres with water levels fluctuating up to 4 feet above grade and 620 acres with the water levels fluctuating up to 8 feet above grade. The final size, depth and configuration of these facilities will be determined through more detailed planning and design.

The purpose of this project is to provide water quality treatment and stormwater attenuation for runoff from Acme Basin "B" prior to discharge to the Loxahatchee National Wildlife Refuge or alternative locations described below. Excess available water may be used to meet water supply demands in central and southern Palm Beach County.

Stormwater runoff from Acme Basin "B" will be pumped into the wetland treatment area and then into the storage reservoir until such time as the water can be discharged into the Loxahatchee National Wildlife Refuge. If water quality treatment criteria is not met then water will be discharged into one of two alternative locations: the Palm Beach County Agricultural Reserve Reservoir (VV) or the combination above ground and in-ground reservoir area located adjacent to the L-8 Borrow Canal and north of the C-51 Canal (GGG).

1.39 Strazzulla Wetlands (OPE)

This project includes water control structures and the acquisition of 3,335 acres located in Palm Beach County. The purpose of this project is to provide a hydrological and ecological connection to the Loxahatchee National Wildlife Refuge and expand the spatial extent of protected natural areas. This land will act as a buffer between higher water stages to the west and lands to the east that must be drained. This increase in spatial extent will provide vital habitat connectivity for species that require large unfragmented tracts of land for survival. It also contains the only remaining cypress habitat in the eastern Everglades and one of the few remaining sawgrass marshes adjacent to the coastal ridge. This is a unique and endangered habitat that must be protected. This area provides an essential Everglades landscape heterogeneity function.

1.40 Site 1 Impoundment (M - Part 1)

This project includes an above ground reservoir with a total storage capacity of approximately 15,000 acre-feet located in the Hillsboro Canal Basin in southern Palm Beach County. The initial design of the reservoir assumed 2,460 acres with water levels fluctuating up to 6 feet above grade. The final size, depth and configuration of these facilities will be determined through more detailed planning and design to be completed as a part of the Water Preserve Areas Feasibility Study.

The purpose of this project is to supplement water deliveries to the Hillsboro Canal during dry periods thereby reducing demands on Lake Okeechobee and the Loxahatchee National Wildlife Refuge. Water from the Hillsboro Canal will be pumped into the reservoir during the wet season or periods when excess water is available. Water will be released back to the Hillsboro Canal to help maintain canal stages during the dry-season.

1.41 Broward County WPA (Not Active)

This project number is not active. Project number 41 was originally established to track the Broward County WPA separable element. It was comprised of several parts of *Comprehensive Plan* components. The components included C-11 Impoundment, C-9 Impoundment, Water Conservation Area 3A/3B Levee Seepage Management, Divert WCA 2B Flows to Central Lake Belt Storage Area, Divert WCA 3 Flows to Central Lake Belt Storage Area, and North New River Improvements (US 27 Conveyance). The implementation strategy has changed. The recommended projects have been assigned their own project numbers and this number will no longer be used.

1.42 Dade-Broward Levee & Canal (Not Active)

This project number is not active. Project number 42 was originally established to track the Dade-Broward Levee and Canal separable element. It was comprised of parts of four components of CERP. These included Dade Broward Levee and Canal, eastern C-4 structure, North Lake Belt Storage Area (Turnpike Deliveries) and Central Lake Belt Storage Area (L-30 Improvements). The implementation strategy has changed, the recommended projects have been assigned their own project numbers and this number will no longer be used.

1.43 Bird Drive Recharge Area (U)

This project includes pumps, water control structures, canals, and an above ground recharge area with a total storage capacity of approximately 11,500 acre-feet located in western Miami-Dade County. The initial design of the

recharge facility assumed 2,877 acres with the water level fluctuating up to 4 feet above grade. Final design will seek to enhance and maintain the continued viability of wetlands within the basin. The final size, depth and configuration of these facilities including treatment requirements will be determined through more detailed planning and design to be completed as a part of the Water Preserve Areas Feasibility Study and will address appropriate pollution load reduction targets necessary to protect downstream receiving surface waters.

The purpose of the project is to recharge groundwater and reduce seepage from the Everglades National Park buffer area by increasing water table elevations east of Krome Avenue. The facility will also provide C-4 flood peak attenuation and water supply deliveries to the South Dade Conveyance System and Northeast Shark River Slough.

Inflows from the western C-4 Canal Basin and from the proposed West Miami-Dade Wastewater Treatment Plant will be pumped into the Recharge Area. Inflows from the wastewater treatment plant will stop when the Recharge Area depth exceeds three feet above ground and will be diverted to a deep well injection disposal system. Recharge area outflows will be prioritized to meet: 1) groundwater recharge demands, 2) South Dade Conveyance System demands and 3) Northeast Shark River Slough demands when supply is available. Regional system deliveries will be routed through the seepage collection canal system of the Bird Drive Recharge Area to the South Dade Conveyance system.

1.44 ASR Regional Study

The ASR Regional Study is principally a data compilation and analysis project designed to evaluate potential effects of the full-scale CERP ASR Program on economically-disadvantaged communities, existing users of the Floridan Aquifer System, agribusiness, utilities, and the environment. The project is designed to address regional ASR issues raised by the ASR Issue Team, Committee for Restoration of the Greater Everglades Ecosystem, and other interested parties that are beyond the scope of the ASR Pilot Projects.

1.45 Broward County WPA (O, Q, R)

This project is comprised of three components - C-11 Impoundment, C-9 Impoundment, and Water Conservation Area 3A/3B Levee Seepage Management. The impoundment areas will 1) aid in reducing seepage from the WCA 3A/3B Seepage Management Area 2) provide groundwater recharge 3) provide adequate water supply to urban areas and 4) prevent saltwater intrusion. The WCA 3A/3B Levee Seepage Management system will focus on

seepage reduction by allowing higher water levels in the L-33 and L-37 borrows.

The purpose of the C-11 Impoundment is to direct runoff from the western C-11 drainage basin into the impoundment in lieu of pumping the untreated runoff via S-9 pump station into the WCA 3A. If water is not available in the impoundment area to perform these functions, S-381 will be opened to allow seepage water to recharge the basin and prevent excessive dry outs. In addition, seepage will be collected and returned to the impoundment area. The purpose of C-9 Impoundment is to pump runoff from the western C-9 drainage basin and diverted water from the western C-11 basin into the impoundment. As a result, this impoundment will assist in reducing seepage from the WCA 3A/3B Levee Seepage Management.

1.46 C-4 Structure (T)

This project is a water control structure in the C-4 Canal just east of the intersection with the C-2 Canal in Miami-Dade County. The primary purpose of S-380E (C-4 Structure) is to divert water south into the C-2 Canal for ground water wellfield recharge. The ability to direct flows south into the C-2 Canal will provide more freshwater flows to the central Biscayne Bay area.

The Structure can be operated to maximize the flow in both canals during the wet season to optimize flood protection. Although incidental, the possibility of improving flood protection of the C-4 basin is significant since flooding continues to be an issue for the surrounding communities.

1.47 WCA 3A/3B Flows to Central Lake Belt (ZZ)

The purpose of this project is to divert excess water above the target depths from Water Conservation Area 3A/3B to the Central Lake Belt Storage Area or Shark River Slough (on an interim basis) via C-500A and C-500B canals (improved L-37 and L-33 borrow canals, respectively). Excess water will be diverted via modified structures at S-9 and S-31.

1.48 WCA 2B Flows to Everglades National Park (YY, SS - Part 1)

This project is comprised of two components - WCA 2B Flows to Central Lake Belt Storage Area and Central Lake Belt Storage Area (L-30 partial). The purpose of the first component is to attenuate high stages in WCA 2B and divert excess water primarily to Northeast Shark River Slough and eventually to Central Lake Belt Storage Area via pump station, culverts, canals such as L-33, L-35 and L-37 and conveyance features. A part of this component consists of the improvements to L-37 and L-33 borrow canals (renamed C-500A and C-500B, respectively) to enable excess flow.

The Central Lake Belt Storage Area will require the upgrade of the L-30 Borrow Canal and a revision of its purpose. Initially, the L-30 borrow canal would make dry-season deliveries to the South Dade Conveyance System via C&SF L-31N system located south of US-41 (Tamiami Trail). However, it will now be upgraded to convey regional natural system deliveries to the Northeast Shark River Slough while still maintaining its primary purpose in reducing seepage loss from WCA 3B area. As a result, the L-30 canal will be redesignated as the C-501 canal and C-503 canal or the Dade Broward Levee Canal will make deliveries to the South Dade Conveyance system.

1.49 WPA Conveyance (BB, XX - Part 1)

This project relates to two components - Dade Broward Levee and Canal and the turnpike deliveries associated with the North Lake Belt Storage Area. A new conveyance canal will be constructed east of the Dade-Broward Levee Canal where the existing canal presently connects to the wellfield protection canal.

In lieu of using the Florida Turnpike Canal, this new canal will convey regional water supply deliveries from Lake Okeechobee to the C-6, C-7, C-4 and C-2 canals and the South Dade Conveyance System. This feature will 1) reduce seepage to the east from the Pennsuco wetlands and southern WCA 3B 2) enhance hydro periods in the Pennsuco Wetlands 3) provide recharge to the Miami-Dade County's Northwest Wellfield and 4) convey regional water supply deliveries south to Miami-Dade County.

2.0 OPERATIONAL MODIFICATIONS

There are several operational components that will be implemented as integral features of the projects listed in **Table A-2**. While these components do not require additional congressional action to implement, they will be included in the studies necessary to further the project to completion. Further, other operational changes will be implemented as part of other existing State Programs. These projects are critical to the success of the *Comprehensive Plan* and implementation of these projects will be funded and monitored through the Recover Process.

3.0 OTHER CERP RELATED SFWMD PROJECTS

There are several other CERP related projects for which the South Florida Water Management is the local sponsor. There include the Critical Restoration Projects and Feasibility Studies. A description of these activities is included in Table A-3 on page A-36.

Table A-2. Operational Components Covered by the Master Program Management Plan

Operational Component	Explanation	Potentially Related Projects
Lake Okeechobee Regulation Schedule (F)	Operational change only; implement with appropriate projects	• Lake Okeechobee Watershed Project • Lake Okeechobee Aquifer Storage and Recovery Project • C-43 Basin Storage Reservoir and ASR Projects • Caloosahatchee Backpumping with Stormwater Treatment Project • Indian River Lagoon Project • Everglades Agricultural Storage Reservoir Projects • North Palm Beach County Projects • Water Preserve Areas A-List Project • Palm Beach County Agriculture Reserve Reservoir Projects • Hillsboro Site 1 Impoundment and ASR Project • Diverting Water Conservation Areas to central Lake Belt Storage to Downstream Natural Areas Project • Broward County Secondary Canal System Project • North Lake Belt Storage Area Project • Central Lake Belt Storage Project
Environmental Water Supply Deliveries to the Caloosahatchee Estuary (E)	Operational change only; implement with appropriate projects	• Lake Okeechobee Watershed Project • Lake Okeechobee Aquifer Storage and Recovery Project • C-43 Basin Storage Reservoir and ASR Projects • Caloosahatchee Backpumping with Stormwater Treatment Project • Everglades Agricultural Storage Reservoir Projects

Table A-2. Operational Components Covered by the Master Program Management Plan

Operational Component	Explanation	Potentially Related Projects
Everglades Rain Driven Operations (H)	Operational change only; implement with appropriate projects	• Lake Okeechobee Watershed Project • Lake Okeechobee Aquifer Storage and Recovery Project • Caloosahatchee Backpumping with Stormwater Treatment Project • Everglades Agricultural Storage Reservoir Projects • Big Cypress/L-28 Interceptor Modifications Project • Flow to Northwest and Central Water Conservation Area 3A Project • Water Conservation Area 3 Decompartmentalization and Sheet Flow Enhancement Projects • Loxahatchee National Wildlife Refuge Internal Canal Structures Project • Water Preserve Areas Projects • Diverting Water Conservation Areas to Central Lake Belt Storage to Downstream Natural Areas Project • North Lake Belt Storage Area Project • Central Lake Belt Storage Project • Everglades National Park Seepage Management Project
Environmental Water Supply Deliveries to the St. Lucie Estuary (C)	Operational change only; implement with appropriate projects	• Lake Okeechobee Watershed Project • Lake Okeechobee Aquifer Storage and Recovery Project • Indian River Lagoon Project • Everglades Agricultural Storage Reservoir Projects
Change Coastal Wellfield Operations (L)	Implement under existing State process	• RECOVER will monitor progress
Lower East Coast Utility Water Conservation (AAA)	Implement under existing State process	• RECOVER will monitor progress

Table A-2. Operational Components Covered by the Master Program Management Plan

Operational Component	Explanation	Potentially Related Projects
Operational Modifications to Southern Portion of L-31N and C-111(OO)	Operational change only; implement with appropriate projects	• C-111 Project (ongoing) • C-111 Spreader Canal Project • Everglades National Park Seepage Management Project

Table A-3. Other CERP Related SFWMD Projects

Project	Description
Critical Restoration Projects	
Ten Mile Creek	Construct an aboveground reservoir with a pump station and a gated water level control structure just south of Ten Mile Creek located southwest of Ft. Pierce, in St. Lucie County
Western Tamiami Trail Culverts	Construct 77 culverts under Tamiami Trail (U.S. 41) at 30 locations
Western C-4 Water Control Structure	Construct gated water control structure in the C-4 basin 20 miles due west of Miami
Southern CREW / Imperial River Floway	
Lake Trafford Restoration	Dredge 8.5 million cubic yards of organic sediment from Lake Trafford, located west of Immokalee, Florida, in north Collier County, and dispose of it on agricultural lands
Lake Okeechobee Water Retention / Phosphorus Removal	Construct two large stormwater treatment areas, acquire conservation easements on lands and remove landowner improvements on parcels of landed located in the lower Kissimmee River basins (S 65D, S-65E and S-154) and the Taylor Creek-Nubbin Slough basin (S-191)
Western C-11 Water Quality Improvement	Construct a gated spillway structure in the C 11 canal to separate clean seepage flows from stormwater flows and construct a pump station to pump clean flows into WCA 3A
Feasibility Studies	
Southwest Florida Feasibility Study	Identify water resource related problems and opportunities and provide a framework to address the health of aquatic ecosystems, water flows, water quality, water supply, flood protection, wildlife diversity and natural habitat in Southwest Florida

Table A-3. Other CERP Related SFWMD Projects

Project	Description
Florida Bay and Florida Keys Feasibility Study	Determine the modifications that are needed to successfully restore and protect the water quality and ecological conditions of Florida Bay and the Florida Keys' reef tract
Indian River Lagoon South Feasibility Study	Improve surface water management in the C-23, C-24, C-25 and C-44 basins for habitat improvement in the St. Lucie Estuary and the Indian River Lagoon
Water Preserve Area Feasibility Study	Provide regional storage to assist in meeting the future water supply needs for agricultural, urban, and environmental uses

3.1 Ten Mile Creek

The intent of the project is to attenuate summer storm water flows into the North Fork of the St. Lucie River Estuary which originate in the Ten Mile Creek basin by capturing and storing the passing storm water. The sedimentation of suspended solids in the storage reservoir will reduce sediment loads delivered to the Estuary. In addition, it is the intention that the captured storm water be passed through a polishing cell for additional water quality treatment from being released into the North Fork. Stored water then is released in the drier months to augment current insufficient flows. This project includes an above-ground reservoir with a pump station and a gated water level control structure to provide seasonal or temporary storage of stormwater from the Ten Mile Creek basin.

3.2 Western Tamiami Trail Culverts

U.S. Highway 41 (Tamiami Trail), constructed in the 1920s, is a two-lane highway that connects Miami to Naples. Currently, the Tamiami Trail impedes the north-south sheetflow in Ten Thousand Islands, Southern Golden Gate Estates, Fakahatchee Strand, Big Cypress National Preserve, Water Conservation Area 3A, and Everglades National Park, which is critical to supporting the regional wetland ecosystems. The existing bridges and water control structures are inadequate for transmitting surface water beneath the Tamiami Trail. The elevated roadbed of the Tamiami Trail is a physical barrier to the natural surface water sheetflow. The borrow canal immediately north of the Tamiami Trail intercepts this south-southwest flow and transfers it to an east-west flow direction until it exits south through bridges or water control structures. Due to this channelization of flowways, some wetland habitats receive too much freshwater, while others do not receive enough. Also, the seasonal hydropatterns (quantity, timing and distribution of surface water flows) are interrupted. The project involves construction of 62 culverts

at 54 locations under Tamiami Trail, and 15 culverts at 8 sites under Loop Road.

3.3 Western C-4 Water Control Structure

The objectives of this project are to raise surface and ground water levels in the Pennsuco wetlands and reduce seepage losses from WCA 3B and the eastern edge of ENP. This project will also increase the efficiency of the proposed Comprehensive Everglades Restoration Project concept. This project would provide increased habitat for plants and animals in the Everglades Protection Area, while decreasing the spread of exotic plants. The project involves construction of a gated water control structure in the C-4 Canal at the intersection of the Dade Broward Levee to raise water levels in the C-4 Canal. Structure capacity would be 400 cubic feet per second.

3.4 Southern CREW / Imperial River Floway

This environmentally critical area east of Bonita Springs has been significantly altered by construction of roads, house pads, agricultural berms, and ditches. These alterations have resulted in restriction of historical sheetflow, unnatural water impoundments and flooding, increased pollutant loading to the Imperial River and Estero River, and disruption of natural wetland functions. Water that historically flowed southwesterly has been partially diverted to the east by roadbeds and single family house pads. This has resulted in decreased hydroperiods (excessive drainage) in wetlands to the west of the CREW and the Corkscrew Sanctuary and increased hydroperiods in the CREW and Corkscrew Sanctuary. The lands proposed for acquisition have been divided into 5 and 10-acre tracts that are being developed into single family home sites. The area has a history of flooding problems that have required the evacuation of residents from the area. If the land continues to be developed, additional roads, house pads, septic tanks and drain fields will increase the blockage of the surface water flow and contribute additional water quality degradation in the environmentally sensitive area around the Imperial River and its headwaters. The project involves acquisition of land and its restoration to a natural state. The project will reestablish a more natural flow pattern to 4,670 acres in Southern Crew; restore Imperial River's natural flow-way to Estero Bay and reduce river nutrient loads.

3.5 Lake Trafford Restoration

Lake Trafford is the largest lake south of Lake Okeechobee (1,494 acres) and is located roughly three miles west of the City of Immokalee. The lake is the headwaters of the Corkscrew Swamp Sanctuary and CREW to the west-southwest and the Fakahatchee Strand system, including Camp Keis Strand and the Florida Panther National Wildlife Refuge to the south.

Approximately 7 million cubic yards of unconsolidated muck on the bottom of the lake were created in the 1970s after herbiciding a hydrilla bloom. During storm events, the sediments are disturbed causing an increase in suspended solids, dissolved nutrients and BOD. Loss of water clarity, unconsolidated sediments, and low DO has resulted in a decimated fishery, and loss of an important eco-tourism resource of southwest Florida. The project will involve removal of approximately 7 million cubic yards of unconsolidated organic material from lake bed and acquisition of 625 acres of land for disposal of the dredged material.

3.6 Lake Okeechobee Water Retention / Phosphorus Removal

Wetlands account for between 18 and 25 percent of the land classification in this watershed. Approximately 37 percent of these wetlands have been ditched to dry the land for agriculture (i.e., improved pasture). Many of these wetlands were isolated depressions that once functioned as small water retention areas in the landscape. Others were more expansive and experienced drying from the regional drainage system. The current system causes the loss of water from the watershed as surface water runoff, which is rapidly transported to the tributary system that drains into Lake Okeechobee. The loss of these isolated wetlands has resulted in various environmental impacts. It has contributed to rapid rises of Lake Okeechobee resulting in the need for excessive freshwater discharges to the estuaries. There has also been a loss of the water quality treatment that used to result from retaining water for short periods of time in these wetlands, and the loss of wetland habitat for migratory birds and waterfowl. The project will involve design and construction of two stormwater treatment areas totaling approximately 1,000 acres and restoration of isolated wetlands and water retention areas totaling approximately 1,600 acres.

3.7 Western C-11 Water Quality Improvement

The purpose of this project is to improve the quality and timing of stormwater discharges from the western C-11 basin to the Everglades Protection Area. The S-9 pump station currently pumps urban and agricultural stormwater runoff from the western C-11 basin directly into Water Conservation Area (WCA) 3A. In the past, water quality concerns have been documented which include untreated urban and agricultural runoff. The project involves the construction of a 2880 cubic feet per second gated water control structure in the western C-11 Canal east of Highway 27, and a 500 cubic feet per second pump station to be located adjacent to the S-9 pump station. The small pump station will be used to re-circulate seepage.

3.8 Southwest Florida Feasibility Study

The Southwest Florida Feasibility Study is being conducted by the U.S. Army Corps of Engineers and the South Florida Water Management District. The study area includes all of Lee County, most of Collier and Hendry Counties, and portions of Charlotte, Glades and Monroe Counties. It encompasses approximately 4,300 square miles and includes two major drainage basins. The northern boundary corresponds to the drainage divide of the Caloosahatchee River, which is also the SFWMD/SWFWMD jurisdictional boundary in Charlotte County. The eastern boundary delineates the divide between the Big Cypress Swamp and the Everglades system. This feasibility study will identify water resource-related problems and opportunities and provide a framework to address the health of aquatic ecosystems, water flows, water quality, water supply, flood protection, wildlife, biological diversity and natural habitat in Southwest Florida.

3.9 Florida Bay and Florida Keys Feasibility Study

The Florida Bay and Florida Keys Feasibility Study will determine the types of modifications needed to successfully restore and protect the water quality and ecological conditions of Florida Bay and the Florida Keys' reef tract. The study will evaluate the quantity, timing, distribution and quality of fresh water that should flow to Florida Bay and provide recommendations for any modification of water deliveries that are expected as a result of the implementation of Everglades' restoration programs.

3.10 Indian River Lagoon South Feasibility Study

The Indian River Lagoon-South Feasibility Study is investigating options to alter the detrimental affects of the flow of surface waters through the existing Central and Southern Florida canal system to the St. Lucie River and Estuary and the Indian River Lagoon. The Central and Southern Florida project features in this study area are C-25 (Belcher Canal), C-24 (Diversion Canal), C-23, and C-44 (St. Lucie Canal). This study focuses on making improvements which will restore the environmental health of the receiving water bodies as well as their watershed. The study area includes Martin County, St. Lucie County and a portion of Okeechobee County.

3.11 Water Preserve Area Feasibility Study

The Water Preserve Areas Feasibility Study investigated concepts to capture and store excess surface waters by backpumping water from the lower east coast urban areas that is normally discharged to tide via the Central and Southern Florida Project canal system. The reconnaissance and feasibility phase of the Restudy demonstrated that the Water Preserve Areas concept is

an integral part of the Everglades restoration plan. The Water Preserve Areas are located within Palm Beach, Broward and Miami-Dade counties east of the Water Conservation Areas and generally west of existing developed areas.

4.0 OTHER LOCAL SPONSOR CERP PROJECTS

There are several other CERP projects for which the South Florida Water Management is not the local sponsor. These projects are listed in **Table A-4**.

Table A-4. Other Local Sponsor CERP Projects

Project Name	Local Sponsor	Restudy Component
Comprehensive Integrated Water Quality Feasibility Study	Florida Department of Environmental Protection (FDEP)	
Biscayne Bay Feasibility Study	Miami-Dade Department of Environmental Resources Management (DERM)	
Seminole Tribe Big Cypress Reservation Water Conservation Plan	Seminole Tribe	OPE
Henderson Creek/Belle Meade Restoration	FDEP	OPE
Lakes Park Restoration	Lee County	OPE
Melaleuca Eradication and Other Exotic Plants	United States Department of Agriculture	OPE
Winsburg Farms Wetlands Restoration	Palm Beach County	OPE
Miccosukee Water Management Plan	Missosukee Tribe	OPE
Restoration of Pineland and Hardwood Hammocks in C-111 Basin	Miami-Dade County	OPE
West Miami-Dade Reuse	Miami-Dade County	HHH
South Miami-Dade Reuse	Miami-Dade County	BBB

4.1 Comprehensive Integrated Water Quality Feasibility Study

The Comprehensive Integrated Water Quality Plan for south Florida would involve identifying pollution-impaired water bodies, quantifying types and sources of pollution, establishing interim and final pollution load reduction targets necessary to achieve ecosystem restoration, recommendations for development of potential source reduction programs, recommendations for baseline and future water quality monitoring programs to assess ecological responses to water quality changes, and recommendations for designing and constructing water quality treatment facilities, if necessary. Although the scope of the feasibility study has not yet been developed, it is envisioned that

the feasibility study would also address issues of fragmented, uncoordinated water quality sampling, data quality, and climatological effects and trends; recommendations for oversight and support of improved water quality modeling efforts in south Florida; development of additional water quality restoration targets, where needed; recommendations for remediation programs to achieve those targets; recommendations for Best Management Practices in specific agricultural and urban areas where appropriate (including identifying those urban areas where participation in the NPDES municipal stormwater program is needed); and, recommendations for synchronizing water quality restoration programs with the implementation schedule for the components of the recommended plan. The Comprehensive Integrated Water Quality Plan would also include recommendations for locations of water storage and treatment areas and design features for optimizing recommended plan components to achieve water quality restoration targets. The comprehensive integrated water quality plan may also lead to recommendations for additional features (e.g., polishing cells, operational features) for recommended plan components currently lacking specific water quality performance elements.

4.2 Biscayne Bay Feasibility Study

Biscayne Bay is a shallow estuary located along the southeastern coast of Florida. It includes most of Biscayne National Park. Adjacent lands provide freshwater flows, surface and groundwater, to Biscayne Bay. The quantity, timing and distribution of freshwater reaching the bay is believed to have been changed by the Central and Southern Florida (C&SF) Project with unknown impacts on the natural salinity patterns and ecology of the bay. A reconnaissance report for Biscayne Bay, completed in 1995, recommended three phases of model development to investigate the effects of the C&SF Project on water circulation, water quality and biological communities in the bay. The Army Corps of Engineers signed a cost sharing agreement with Metropolitan Dade County for the Phase 1 effort in October 1995. Phase 1 studies, to be completed in FY2000, involve data collection and the creation of a hydrodynamic and salinity model of the bay. Phase 2 proposes developing a water quality nutrients model and Phase 3 addresses the creation of a biological model, including plant and animal communities.

4.3 Seminole Tribe Big Cypress Reservation Water Conservation Plan (OPE)

The purpose of this feature is to improve the quality of water and runoff from phosphorus generating agricultural sources within the Reservation. The area is traversed by the L-28 and L-28I Borrow Canals and the North and West Feeder Canals., all of which were constructed as part of the C&SF Project. This comprehensive watershed management system is designed to achieve

environmental restoration on the Reservation, the Big Cypress Preserve, and the Everglades Protection Area. In addition, the project will reduce flood damage and promote water conservation.

This feature includes construction of water control, management, and treatment facilities in the Big Cypress Reservation. The construction elements include conveyance systems, major canal bypass structures, irr4igatin storage cells and water resource areas.

The removal of pollutants will be achieved using natural treatment processes in pretreatment cells and water storage areas. A phosphorus level of 50 ppb is the goal, which is the current level to be achieved by the stormwater treatment areas of the Everglades Construction Project. Should design performance levels for phosphorus become more stringent, this project has sufficient flexibility to incorporate additional alternative technology.

4.4 Henderson Creek/Belle Meade Restoration (OPE)

The purpose of this feature is to restore historic sheetflow to the estuary, treatment of stormwater, improvement of water quality and increase in habitat value and wetland functions.

This feature combines multiple individual elements to complement each other to form a larger-scale combined effect. This feature includes a 10-acre stormwater lake/marsh filtering system; four culverts under State Road 951; hydrologic restoration around Manatee Basin including culverts, ditching, removal of some roadbed; invasive, exotic plant removal; a public access pint and interpretive boardwalk; construction of a swale and spreader system; and removal of the Road-to-Nowhere. This southwest Florida feature is located in Collier County. The area known locally as Belle Meade is the primary drainage basin for the Henderson Creek Estuary, which drains into Rookery Bay.

4.5 Lakes Park Restoration (OPE)

The purpose of this feature is to enhance surface water runoff quality by creating a meandering flowway with shallow littoral zones to enhance pollution removal and oxygen content, removing aquatic and upland exotic infestation while allowing public access into upland areas of improved native habitat. The restoration will provide immediate habitat and water quality benefits at Lakes Park and improve downstream condition s in Hendry County and the Estero Bay Aquatic Preserve.

This feature includes the construction of a 40-acre marsh/flowway in an abandoned rock mine, removal of exotic vegetation, and planting native

vegetation on 11 acres of uplands and 9 acres of littoral zone. This feature is located in the Lee County Lakes Regional Park upstream of Estero Bay.

4.6 Melaleuca Eradication and Other Exotic Plants (OPE)

The purpose of this feature is to increase the effectiveness of biological control technologies to manage Melaleuca sand other invasive exotic species. This includes upgrading and retrofitting the current quarantine facility in Gainesville and large-scale rearing of approved biological control technologies to manage Melaleuca and other invasive exotic species.

4.7 Winsburg Farms Wetlands Restoration (OPE)

In an effort to reduce the amount of treated water from the Southern Region Water Reclamation Facility (SRWRF) that is currently wasted in deep injection wells, the Palm Beach County Water Utilities Department (PBCWUD) plans to further treat and recycle this water. The PBCWUD has completed construction of a 50-acre constructed wetland located at the County's System 3 site east of Jog Road, just southeast of the Winsberg property. This wetland has been named Wakodahatchee, which is Seminole Indian for (created waters). As part of this wetland, a public access facility with limited parking, boardwalk, kiosks and interpretive signage was designed to educate the public about the importance of wetlands for both treatment of water and creation of wildlife habitat. This project proposes construction of an additional 175 acres of wetlands on the Winsberg property. This will serve to not only recycle and preserve additional water for future use, but will link the Wakodahatchee and Winsberg Farms facilities and provide additional green space in area currently under heavy development. Approximately, 6 to 8 Million Gallons per Day of reclaimed water from the SRWRF would be applied to the area. The wetland would be planted to maximize the diversity of native plant material and habitat for various species of wildlife.

4.8 Miccosukee Water Management Plan (OPE)

The purpose of this feature is to provide water storage capacity and water quality enhancement for tribal reservation waters which discharge from tribal lands and downstream into the Everglades Protection Area. This feature includes construction of a 900-acre wetland retention/detention area on the Miccosukee Tribe's Alligator Alley Reservation. The feature includes a pump station, levees, trenches and culverts to create thin flow and outflow facilities for the retention/detention area.

4.9 Restoration of Pineland and Hardwood Hammocks in C-111 Basin (OPE)

The purpose of this feature is to restore hammocks to a portion of the Frog Pond which has been purchased by the South Florida Water Management District as part of the C-111 Project to restore the Taylor Slough portion of the Everglades. This feature will provide some water quality treatment for runoff passing through the hammocks and will demonstrate the techniques required to re-establish native conifer and hardwood forests on land that has been rock plowed.

This feature includes restoring south Florida slash pine and hardwood hammock species on a 200-foot wide strip on each side of two miles of SR 9336 from the C-111 Canal to the L-31W Borrow Canal (approximately 50 acres) and the establishment of 2, one-acre hammocks in low-lying areas on each side of the road located in Miami-Dade County.

4.10 West Miami-Dade Reuse (HHH)

The purpose of the feature is to meet the demands for: (1) the Bird Drive Recharge Area; (2) the South Dade Conveyance System, and (3) the Northeast Shark River Slough. When all demands have been met, the plant will stop treatment beyond secondary treatment standards and will dispose of the secondary treated effluent into deep injection wells.

This feature includes a wastewater treatment plant expansion to produce superior, advanced treatment of wastewater from a future West Miami-Dade Wastewater Treatment Plant to be located in the Bird Drive Basin in Miami-Dade County. The initial design assumed a potential discharge volume of 100 million gallons per day from the wastewater treatment plant. The final configuration of these facilities will be determined through more detailed planning and design to be completed in the ongoing West Dade Water Reuse Feasibility Study authorized in Section 413 of the Water Resources Development Act of 1996. Superior water quality treatment features will be based on appropriate pollution load reduction targets necessary to protect downstream receiving surface waters.

4.11 South Miami-Dade Reuse (BBB)

The purpose of this feature is to provide additional water supply to the South Biscayne Bay and Coastal Wetlands Enhancement Project. In order to attain the superior level of treatment, construction of an add-on pretreatment and membrane treatment system to the existing secondary treatment facility will be necessary. Superior water quality treatment features will be based on

appropriate pollution load reduction targets necessary to protect downstream receiving surface waters (Biscayne Bay).

This feature includes a plant expansion to produce superior, advanced treatment of wastewater from the existing South District Wastewater Treatment Plant located north of the C-1 Canal in Miami-Dade County. The initial design of this feature assumed that the plant will have a capacity of 131 million gallons per day. More detailed analyses will be required to determine the quality and quantity of water needed to meet the ecological goals and objectives of Biscayne Bay. Additionally, due to the water quality issues associated with discharging reclaimed water into Biscayne National Park, an Outstanding Florida Water, such as potential failures of the treatment system and the limited ability to control contaminant inputs to the sanitary sewer system serving the treatment facility, other potential sources of water to provide required freshwater flows to southern and central Biscayne Bay should be investigated before pursuing the reuse facility as a source. If it is determined that other, more appropriate sources are not available, the reuse project will be initiated by determining the parameters of concern, the necessary wastewater treatment requirements, and the appropriate treatment technology to be implemented.

APPENDIX B: CERP IMPLEMENTATION SCHEDULE

An initial implementation schedule was published in the Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement (USACE and SFWMD, 1999). In July 2001, the South Florida Water Management District (SFWMD or District) and the United States Army Corps of Engineers (USACE) published the CERP Implementation Schedule 1.0 (USACE and SFWMD, 2001). This schedule is presented on the following pages. Subsequent to the preparation of the Implementation Schedule, Project Management Plans have been developed for several projects. These plans contain more detailed schedules that update the Implementation Schedule. The Implementation Schedule will be updated in FY2004. The most current implementation information is available on the CERP website www.evergladesplan.org.

SFWMD CERP UPDATE 1.0 Master Implementation Plan - Publish

Activity ID	Activity Name	Start	Finish
MIP 1 SFWMD CERP UPDATE 1.0		09-22-1999	09-30-2039
MIP 1.A SCHEDULED COMPLETION MILESTONES		09-28-2001	07-01-2030
MIP 1.A.01	**INDIAN RIVER LAGOON**	09-28-2001	09-28-2001
MIP 1.A.02	**WATER PRESERVE AREAS**	12-31-2001	12-31-2001
MIP 1.A.03	**SOUTHWEST FLORIDA FEASIBILITY STUDY**	03-03-2005	03-03-2005
MIP 1.A.04	**COMPREHENSIVE ECOSYSTEM WATER QUALITY IMPROVEMENT ST...**	12-22-2006	12-22-2006
MIP 1.A.05	**FLORIDA BAY FEASIBILITY STUDY**	03-30-2006	03-30-2006
MIP 1.A.06	**C-111 GRR**	11-15-2001	11-15-2001
MIP 1.A.07	**WEST DADE REUSE FEASIBILITY STUDY**	02-13-2002	02-13-2002
MIP 1.A.08	**STA-1E PROJECT**	03-14-2003	03-14-2003
MIP 1.A.09	**STA 3/4 PROJECT**	10-01-2003	10-01-2003
MIP 1.A.10	**SEMINOLE CONSERVATION PLAN**	03-29-2005	03-29-2005
MIP 1.A.11	**ROTENBERGER MONITORING**	10-01-2003	10-01-2003
MIP 1.A.12	**MODIFED WATER DELIVERIES TO EVERGLADES NATIONAL PARK**	12-31-2003	12-31-2003
MIP 1.A.13	**LAKEBELT MINING/ LANDS AVAILABLE**	02-27-2012	07-01-2030
MIP-1027	Lands Available-Minin g Complete XX Ph1		02-27-2012*
MIP-1028	Lands Availab le XX Ph2		07-01-2030*
MIP-1029	Lands Available-Mining Complete S Ph2		07-01-2030*
MIP-1030	Land Available S Ph1		02-27-2012*
MIP 1.2 PROGRAM LEVEL A CTIVITIES		09-22-1999	09-30-2039
MIP 1.2.01	**PROGRAM MANAGEMENT**	09-22-1999	04-17-2008
MIP 1.2.02	**GEODETIC CONTROLS**	03-30-2001	03-30-2001
MIP 1.2.03	**RECOVER**	08-10-2000	08-10-2000
MIP 1.2.04	**PROGRAM CONTROLS**	12-29-2000	12-29-2000
MIP 1.2.05	**PUBLIC INVOLVEMENT & OUTREACH**	12-29-2000	12-29-2000
MIP 1.2.06	**ENVIRONMENTAL & ECONOMIC EQUITY**	03-30-2001	03-30-2001
MIP 1.2.07	**DATA MANAGEMENT PLAN**	03-30-2001	03-30-2001
MIP 1.2.08	**Adaptive Assessment & Monitoring (Authorized)**	08-11-2000	09-30-2010
MIP 1.2.09	**Adaptive Assessment & Monitoring (Remaining)**	10-01-2010	09-30-2039
MIP 1.1.01 LAKE OKEECHOBEE WATERSHED PROJECT		11-29-2000	02-15-2013
MIP 1.1.01.1	**LAKE OKEECHOBEE PIR'S A & W**	11-29-2000	02-27-2006
MIP-1102	PMP Development A, W, LOWQTF, LOTSD	11-29-2000*	06-28-2001
MIP-1103	PIR A, LOWQTF, LOTSD	06-29-2001	02-27-2006
MIP-1104	PIR W	06-29-2001	03-24-2005
MIP 1.1.01.2	**NORTH OF LAKE OKEECHOBEE STORAGE RESERVOIR (A)**	02-28-2006	02-15-2013
MIP-1106	RE Acquisition A	02-28-2006	02-23-2009
MIP-1107	Design A	02-28-2006	02-25-2008
MIP-1108	P&S A	02-26-2008	02-23-2009
MIP-1109	Construction A	02-24-2009	02-15-2013
MIP 1.1.01.3	**TAYLOR CREEK / NUBBIN SLOUGH STORAGE AND TREATMENT A...**	03-25-2005	06-18-2009
MIP-1111	RE Acquisition W	03-25-2005	01-12-2007
MIP-1112	Design W	03-25-2005	07-20-2006
MIP-1113	P&S W	07-21-2006	07-19-2007
MIP-1114	Construction W	07-20-2007	06-18-2009
MIP 1.1.01.4	**LAKE OKEECHOBEE WATERSHED WATER QUALITY TREATMENT ...**	02-28-2006	02-15-2013
MIP-1116	RE Acquisition LOWQTF	02-28-2006	02-23-2009
MIP-1117	Design LOWQTF	02-28-2006	02-25-2008
MIP-1118	P&S LOWQTF	02-26-2008	02-23-2009
MIP-1119	Construction LOWQTF	02-24-2009	02-15-2013
MIP 1.1.01.5	**LAKE OKEECHOBEE TRIBUTARY SEDIMENT DREDGING (OPE)**	02-28-2006	08-25-2008
MIP-1121	RE Acquisition LO Trib Dredging	02-28-2006	08-27-2007
MIP-1122	Design LO Tributary Dredging	02-28-2006	02-26-2007
MIP-1123	P&S LO Tributary Dredging	02-27-2007	08-27-2007
MIP-1124	Construction LO Tributary Dredging	08-28-2007	08-25-2008
MIP 1.1.02 LAKE ISTOKPOGA REGULATION SCHEDULE PROJECT		01-02-2002	12-30-2003
MIP-1126	PMP Development LIB	01-02-2002*	04-02-2002
MIP-1127	Regulation Schedule Report LIB	04-03-2002*	12-30-2003
MIP 1.1.03 LAKE OKEECHOBEE AQUIFER STORAGE & RECOVER...		11-04-2009	10-13-2026
MIP 1.1.03.1	**PHASE 1 - LAKE OKEECHOBEE ASR PIR, PMP**	11-04-2009	10-29-2013
MIP-1129	PMP Development GG	11-04-2009*	05-04-2010
MIP-1130	PIR GG	05-05-2010	10-29-2013

SFWMD CERP UPDATE 1.0 Master Implementation Plan - Publish

Activity ID	Activity Name	Start	Finish
MIP 1.1.03.2	PHASE 1 - LAKE OKEECHOBEE ASR GG Ph1	10-30-2013	10-20-2020
MIP-1132	RE Acquisition GG Ph1	10-30-2013	10-24-2017
MIP-1133	Design GG Ph1	10-30-2013	10-25-2016
MIP-1134	P&S GG Ph1	10-26-2016	10-24-2017
MIP-1135	Construction GG Ph1	10-25-2017	10-20-2020
MIP 1.1.03.3	PHASE 2 - LAKE OKEECHOBEE ASR PhH 2 GG Ph2	10-25-2017	10-17-2023
MIP-1137	RE Acquisition GG Ph2	10-25-2017	10-20-2020
MIP-1138	Design GG Ph2	10-25-2017	10-22-2019
MIP-1139	P&S GG Ph2	10-23-2019	10-20-2020
MIP-1140	Construction GG Ph2	10-21-2020	10-17-2023
MIP 1.1.03.4	PHASE 3 - LAKE OKEECHOBEE ASR PH 3 GG Ph3	10-21-2020	10-13-2026
MIP-1142	RE Acquisition GG Ph3	10-21-2020	10-17-2023
MIP-1143	Design GG Ph3	10-21-2020	10-18-2022
MIP-1144	P&S GG Ph3	10-19-2022	10-17-2023
MIP-1145	Construction GG Ph3	10-18-2023	10-13-2026
MIP 1.1.04	C-43 BASIN STORAGE RESERVOIR PROJECT PART 1	03-12-2001	04-29-2011
MIP-1147	PMP Development D Pt1	03-12-2001*	09-28-2001
MIP-1148	PIR D Pt1	10-01-2001	03-26-2004
MIP-1149	RE Acquisition D Pt1	03-29-2004	03-23-2007
MIP-1150	Design D Pt1	03-29-2004	03-24-2006
MIP-1151	P&S D Pt1	03-27-2006	03-23-2007
MIP-1152	Construction D Pt1	03-26-2007	04-29-2011
MIP 1.1.05	C-43 BASIN AQUIFER STORAGE & RECOVERY PROJE...	08-18-2008	02-02-2018
MIP-1154	PMP Development D Pt2	08-18-2008*	02-13-2009
MIP-1155	PIR D Pt2	02-17-2009	08-12-2011
MIP-1156	RE Verification D Pt2	02-17-2009	02-23-2009
MIP-1157	Design D Pt2	08-15-2011	08-09-2013
MIP-1158	P&S D Pt2	08-12-2013	08-08-2014
MIP-1159	Construction D Pt2	08-11-2014	02-02-2018
MIP 1.1.06	CALOOSAHATCHEE BACKPUMPING/STORMWATER T...	03-04-2005	07-17-2014
MIP-1161	PMP Development DDD	03-04-2005	09-01-2005
MIP-1162	PIR DDD	09-02-2005	02-28-2008
MIP-1163	RE Acquisition DDD	02-29-2008	02-24-2011
MIP-1164	Design DDD	02-29-2008	02-25-2010
MIP-1165	P&S DDD	02-26-2010	02-24-2011
MIP-1166	Construction DDD	02-25-2011	07-17-2014
MIP 1.1.07	INDIAN RIVER LAGOON PROJECT	10-01-2001	08-27-2010
MIP 1.1.07.1	INDIAN RIVER LAGOON PROJECT PMP	10-01-2001	03-29-2002
MIP-1168	PMP B, UU	10-01-2001	03-29-2002
MIP 1.1.07.2	C-44 BASIN STORAGE RESERVOIR IRL	04-01-2002	10-19-2007
MIP-1170	RE Acquisition B - Construction	04-01-2002	03-25-2005
MIP-1171	RE Acquisition B - Operations	10-25-2004	10-19-2007
MIP-1172	Design B	04-01-2002	03-26-2004
MIP-1173	P&S B	03-29-2004	03-25-2005
MIP-1174	Construction B	03-28-2005	10-19-2007
MIP 1.1.07.3	PHASE 1 - C-23, C-24 STORAGE RESERVOIRS IRL	11-18-2002	08-21-2009
MIP-1176	RE Acquisition UU1 - Construction	11-18-2002	11-10-2005
MIP-1177	RE Acquisition UU1 - Operations	08-28-2006	08-21-2009
MIP-1178	Design UU1	11-18-2002	11-12-2004
MIP-1179	P&S UU1	11-15-2004	11-10-2005
MIP-1180	Construction UU1	11-14-2005	08-21-2009
MIP 1.1.07.4	PHASE 2 - C25, NORTH & SOUTH FORK STORAGE RESERVOIRS IRL	11-24-2003	08-27-2010
MIP-1182	RE Acquisition UU2 - Construction	11-24-2003	11-17-2006
MIP-1183	RE Acquisition UU2 - Operations	09-04-2007	08-27-2010
MIP-1184	Design UU2	11-24-2003	11-17-2006
MIP-1185	P&S UU2	11-20-2006	11-16-2007
MIP-1186	Construction UU2	11-19-2007	08-27-2010
MIP 1.1.08	EVERGLADES AGRICULTURAL STORAGE RESERVOIR...	01-31-2001	09-16-2009
MIP-1188	PMP Development G Pt1	01-31-2001*	09-28-2001
MIP-1189	PIR G Pt1	10-01-2001	01-27-2004
MIP-1190	RE DOI Verification G Pt1	04-25-2005	05-02-2005*

SFWMD CERP UPDATE 1.0 Master Implementation Plan - Publish

Activity ID	Activity Name	Start	Finish
MIP-1191	RE SFWMD Verification G Pt1	04-25-2005	05-02-2005*
MIP-1192	Design G Pt1	01-28-2004	09-29-2004
MIP-1193	P&S G Pt1	09-30-2004	06-29-2005
MIP-1194	Construction G Pt1	06-30-2005	09-16-2009*
MIP 1.1.09 EVERGLADES AGRICULTURAL STORAGE RESERVOIR...		09-30-2004	09-17-2014
MIP-1196	PMP Development G Pt2	09-30-2004	03-30-2005
MIP-1197	PIR G Pt2	03-31-2005	09-26-2007
MIP-1198	RE Acquisition G Pt2	09-27-2007	09-22-2010
MIP-1199	Design G Pt2	09-27-2007	09-23-2009
MIP-1200	P&S G Pt2	09-24-2009	09-22-2010
MIP-1201	Construction G Pt2	09-23-2010	09-17-2014
MIP 1.1.10 BIG CYPRESS / L-28 INTERCEPTOR MOD IFICATIONS P...		03-30-2005	06-16-2015
MIP-1203	PMP Development CCC	03-30-2005	09-27-2005
MIP-1204	PIR CCC	09-28-2005	06-26-2007
MIP-1205	RE Acquisition CCC	06-27-2007	05-24-2011
MIP-1206	Design CCC	06-27-2007	06-22-2010
MIP-1207	P&S CCC	06-23-2010	06-21-2011
MIP-1208	Construction CCC	06-22-2011	06-16-2015
MIP 1.1.11 FLOW TO NW & CENTRAL WCA 3A PROJECT		10-03-2002	09-21-2011
MIP 1.1.11.1 FLOW TO NW & CENT WCA 3A PROJECT PMP, PIR		10-03-2002	09-29-2004
MIP-1210	PMP Development (RR,I I)	10-03-2002	04-02-2003
MIP-1211	PIR (RR, II)	04-03-2003	09-29-2004
MIP 1.1.11.2 G-404 PUMP STATION MODIFICATIONS		09-30-2004	09-24-2008
MIP-1213	RE Verification II	09-30-2004	10-06-2004
MIP-1214	Design II	09-30-2004	09-27-2006
MIP-1215	P&S II	09-28-2006	09-26-2007
MIP-1216	Construction II	09-27-2007	09-24-2008
MIP 1.1.11.3 FLOWS TO NW & CENTRAL WCA 3A		09-30-2004	09-21-2011
MIP-1218	RE Verification RR	09-30-2004	10-06-2004
MIP-1219	Design RR	09-30-2004	09-27-2006
MIP-1220	P&S RR	09-28-2006	09-26-2007
MIP-1221	Construction RR	09-27-2007	09-21-2011
MIP 1.1.12 WCA 3 DECOMP & SHEETFLOW ENHANCEMENT PROJ...		01-30-2001	10-04-2010
MIP 1.1.12.1 PART 1 WCA 3 DECOMP PROJECT PMP, PIR		01-30-2001	11-13-2003
MIP-1223	PMP Development QQ P1, SS Pt2	01-30-2001*	11-15-2001
MIP-1224	PIR QQ Pt1, SSP2	11-16-2001	11-13-2003
MIP 1.1.12.2 PHASE 1 - WCA-3 DECOMP PART 1		11-14-2003	10-04-2010
MIP-1226	RE Acquisition QQ Ph1	11-14-2003	11-10-2005
MIP-1227	Design QQ Ph1	11-14-2003	05-12-2005
MIP-1228	P&S QQ Ph1	05-13-2005	05-11-2006
MIP-1229	Construction QQ Ph1	05-12-2006	10-04-2010
MIP 1.1.12.3 PHASE 2 - NORTH NEW RIVER IMPROVEMENTS (from EAA to S-34) ...		11-14-2003	04-05-2010
MIP-1231	RE Verification SS Ph2	11-14-2003	11-20-2003
MIP-1232	Design SS Ph2	11-14-2003	11-10-2005
MIP-1233	P&S SS Ph2	11-14-2005	11-09-2006
MIP-1234	Construction SS Ph2	11-13-2006	04-05-2010
MIP 1.1.13 WCA 3 DECOMP & SHEETFLOW ENHANCEMENT PROJ...		05-12-2006	04-30-2015
MIP 1.1.13.1 PART 2 - WCA 3 DECOMP PROJECT PMP, PIR		05-12-2006	11-06-2008
MIP-1236	PMP Development QQ Pt2, AA	05-12-2006	11-09-2006
MIP-1237	PIR QQ Pt2, AA	11-13-2006	11-06-2008
MIP 1.1.13.3 ADDITIONAL S-345 STRUCTURES (AA)		11-07-2008	04-30-2015
MIP-1239	RE Verification AA	11-07-2008	11-13-2008
MIP-1240	Design AA	11-07-2008	05-05-2011
MIP-1241	P&S AA	05-06-2011	05-03-2012
MIP-1242	Construction AA	05-04-2012	04-30-2015
MIP 1.1.13.4 PART 2 - WCA-3 DECOMP PH 2 (QQ Pt2)		11-07-2008	11-06-2014
MIP-1244	RE Acquisition QQ Pt2	11-07-2008	11-04-2010
MIP-1245	Design QQ Pt2	11-07-2008	05-06-2010
MIP-1246	P&S QQ Pt2	05-07-2010	05-05-2011
MIP-1247	Construction QQ Pt2	05-06-2011	11-06-2014
MIP 1.1.14 LOXAHATCHEE NAT IONAL WILDLIFE REFUGE INTERN...		03-17-2003	12-07-2007

SFWMD CERP UPDATE 1.0 Master Implementation Plan - Publish

Activity ID	Activity Name	Start	Finish
MIP-1249	PMP Development KK	03-17-2003	09-12-2003
MIP-1250	PIR KK	09-15-2003	12-10-2004
MIP-1251	RE Acquisition KK	12-13-2004	12-09-2005
MIP-1252	Design KK	12-13-2004	12-09-2005
MIP-1253	P&S KK	12-12-2005	12-08-2006
MIP-1254	Construction KK	12-11-2006	12-07-2007
MIP 1.1.15 MODIFY HOLEY LAND WILDLIFE MANAGEMENT AREA ...		10-02-2003	03-26-2008
MIP-1256	PMP Development (DD)	10-02-2003	06-30-2004
MIP-1258	Implementation of Rainfall-Driven Operation Schedule (DD)	03-26-2008	
MIP-1259	Develop Rainfall-Driven Operation Schedule (DD)	07-01-2004	03-26-2008
MIP 1.1.16 MODIFY ROTENBERGER WILDLIFE MANAGEMENT AR...		10-02-2003	05-03-2006
MIP-1260	PMP Development (EE)	10-02-2003	06-30-2004
MIP-1262	Implement Rainfall-Driven Operation Schedule (EE)	05-03-2006	
MIP-1369	Regulation Schedule Report	07-01-2004	05-03-2006
MIP 1.1.17 NORTH PALM BEACH COUNTY PROJECT - PART 1		04-02-2001	03-14-2014
MIP 1.1.17.1 PART 1 - NORTH PALM BEACH COUNTY PROJECT PMP, PIR		04-02-2001	03-26-2004
MIP-1264	PMP Development X,Y,K Ph1,GGG, Pal Mar, Lake W orth Lagoon	04-02-2001*	10-31-2001
MIP-1265	PIR X,Y,K Ph1,GGG, Pal Mar, Lake Worth Lagoon	11-01-2001	03-26-2004
MIP 1.1.17.2 PAL-MAR AND J.W. CORBETT WILDLIFE MANAGEMENT AREA HYD...		03-29-2004	03-20-2009
MIP-1267	RE Acquisition Pal-Mar/Corbett	03-29-2004	03-23-2007
MIP-1268	Design Pal-Mar/Corbett	09-27-2004	03-24-2006
MIP-1269	P&S Pal-Mar/Corbett	03-27-2006	03-23-2007
MIP-1270	Construction Pal-Mar/Corbett	03-26-2007	03-20-2009
MIP 1.1.17.3 L-8 BASIN (K Ph1)		03-29-2004	03-18-2011
MIP-1272	RE Acquisition K Ph1	03-29-2004	03-23-2007
MIP-1273	Design K Ph1	03-29-2004	09-23-2005
MIP-1274	P&S K Ph1	09-26-2005	09-22-2006
MIP-1275	Construction K Ph1	03-26-2007	03-18-2011
MIP 1.1.17.4 C-51 & SOUTHERN L-8 RESERVOIR (GGG)		03-29-2004	03-14-2014
MIP-1277	RE Acquisition GGG	03-29-2004	03-21-2008
MIP-1278	Design GGG	03-29-2004	09-22-2006
MIP-1279	P&S GGG	09-25-2006	09-21-2007
MIP-1280	Construction GGG	03-24-2008	03-14-2014
MIP 1.1.17.5 LAKE WORTH LAGOON RESTORATION (OPE)		03-29-2004	03-21-2008
MIP-1282	RE Acquisition LWL Restoration	03-29-2004	03-24-2006
MIP-1283	Design LWL Restoration	03-29-2004	03-25-2005
MIP-1284	P&S LWL Restoration	03-28-2005	03-24-2006
MIP-1285	Construction LWL Restoration	03-27-2006	03-21-2008
MIP 1.1.17.6 C-17 BACKPUMPING & TREATMENT (X)		03-29-2004	03-19-2010
MIP-1287	RE Acquisition X	03-29-2004	03-23-2007
MIP-1288	Design X	09-27-2004	03-24-2006
MIP-1289	P&S X	03-27-2006	03-23-2007
MIP-1290	Construction X	03-26-2007	03-19-2010
MIP 1.1.17.7 C-51 BACKPUMPING & TREATMENT (Y)		03-29-2004	03-19-2010
MIP-1292	RE Acquisition Y	03-29-2004	03-23-2007
MIP-1293	Design Y	09-27-2004	03-24-2006
MIP-1294	P&S Y	03-27-2006	03-23-2007
MIP-1295	Construction Y	03-26-2007	03-19-2010
MIP 1.1.18 NORTH PALM BEACH COUNTY PROJECT - PART 2		05-01-2009	10-15-2020
MIP 1.1.18.1 PART 2 - NORTH PALM BEACH COUNTY PROJECT PMP, PIR		05-01-2009	04-26-2012
MIP-1297	PMP Development K Ph2,LL	05-01-2009*	10-29-2009
MIP-1298	PIR K Ph2,LL	10-30-2009	04-26-2012
MIP 1.1.18.2 C-51 REGIONAL GROUNDWATER AQUIFER STORAGE & RECOVER...		04-27-2012	10-15-2020
MIP-1300	RE Acquisition LL	04-27-2012	03-26-2015
MIP-1301	Design LL	04-27-2012	10-23-2014
MIP-1302	P&S LL	10-24-2014	10-22-2015
MIP-1303	Construction LL	10-23-2015	10-15-2020
MIP 1.1.18.3 L-8 BASIN AQUIFER STORAGE & RECOVERY (K Ph2)		04-27-2012	10-18-2018
MIP-1305	RE Verification K Ph2	04-27-2012	05-03-2012
MIP-1306	Design K Ph2	04-27-2012	10-24-2013
MIP-1307	P&S K Ph2	10-25-2013	10-23-2014

SFWMD CERP UPDATE 1.0 Master Implementation Plan - Publish

Activity ID	Activity Name	Start	Finish
MIP-1308	Construction K Ph2	10-24-2014	10-18-2018
MIP 1.1.20	**PBC AGRICULTURE RESERVE RESERVOIR PROJECT -...**	12-02-2005	05-19-2016
MIP-1370	PMP Development VV Pt1	12-02-2005	06-01-2006
MIP-1371	PIR VV Pt1	06-02-2006	05-29-2008
MIP-1372	RE Acquisition VV Pt1	05-30-2008	05-24-2012
MIP-1373	Design VV Pt1	05-30-2008	05-26-2011
MIP-1374	P&S VV Pt1	05-27-2011	05-24-2012
MIP-1375	Construction VV Pt1	05-25-2012	05-19-2016
MIP 1.1.21	**PBC AGRICULTURE RESERVE AQUIFER STORAGE & ...**	05-01-2009	07-18-2019
MIP-1377	PMP Development VV Pt2	05-01-2009	10-29-2009
MIP-1378	PIR VV Pt2	10-30-2009	07-28-2011
MIP-1379	Design VV Pt2	07-29-2011	07-24-2014
MIP-1380	P&S VV Pt2	07-25-2014	07-23-2015
MIP-1381	Construction VV Pt2	07-24-2015	07-18-2019
MIP 1.1.22	**HILLSBORO AQUIFER STORAGE & RECOVERY PROJE...**	05-01-2009	03-17-2017
MIP-1383	PMP Development M Pt2	05-01-2009	10-29-2009
MIP-1384	PIR M Pt2	10-30-2009	05-12-2011
MIP-1385	Design M Pt2	05-13-2011	04-25-2013
MIP-1386	P&S M Pt2	04-26-2013	04-24-2014
MIP-1387	Construction Site M Pt2	04-25-2014	03-17-2017*
MIP 1.1.23	**DIVERTING WCA TO CLB TO DOWNSTREAM NATURAL...**	06-23-2009	06-11-2018
MIP 1.1.23.1	**DIVERTING WCA TO CLB TO DOWNSTREAM NATURAL AREAS PRO...**	06-23-2009	06-18-2012
MIP-1389	PMP EEE,ZZ,YY	06-23-2009*	12-21-2009
MIP-1390	PIR EEE,ZZ,YY	12-22-2009	06-18-2012
MIP 1.1.23.2	**WCA-2B FLOWS TO CLB (YY)**	06-19-2012	06-11-2018
MIP-1392	RE Acquisition YY	06-19-2012	06-15-2015
MIP-1393	Design YY	06-19-2012	06-16-2014
MIP-1394	P&S YY	06-17-2014	06-15-2015
MIP-1395	Construction YY	06-16-2015	06-11-2018
MIP 1.1.23.3	**WCA-3A & 3B FLOWS TO CLB (ZZ)**	06-19-2012	06-12-2017
MIP-1397	RE Acquisition ZZ	06-19-2012	06-15-2015
MIP-1398	Design ZZ	06-19-2012	06-16-2014
MIP-1399	P&S ZZ	06-17-2014	06-15-2015
MIP-1400	Construction ZZ	06-16-2015	06-12-2017
MIP 1.1.23.4	**FLOWS FROM CLB TO WCA-3B (EEE)**	06-19-2012	12-12-2016
MIP-1402	Design EEE	06-19-2012	12-16-2013
MIP-1403	P&S EEE	12-17-2013	12-15-2014
MIP-1404	Construction EEE	12-16-2014	12-12-2016
MIP 1.1.24	**BROWARD CO. SECONDARY CANAL SYSTEM PROJECT**	10-01-2001	06-19-2009
MIP-1406	PMP Development CC	10-01-2001*	03-29-2002
MIP-1407	PIR CC	04-01-2002	06-27-2003
MIP-1408	RE Acquisition CC P1	06-30-2003	05-26-2006
MIP-1409	Design CC P1	06-30-2003	06-24-2005
MIP-1410	P&S CC P1	06-27-2005	06-23-2006
MIP-1411	Construction CC P1	06-26-2006	06-19-2009
MIP 1.1.25	**NORTH LAKEBELT STORAGE AREA PROJECT**	03-08-2011	06-23-2036
MIP 1.1.25.1	**NORTH LAKEBELT STORAGE AREA PROJECT PMP, PIR**	03-08-2011	03-03-2014
MIP-1413	PMP XX	03-08-2011	09-02-2011
MIP-1414	PIR XX	09-06-2011	03-03-2014
MIP 1.1.25.2	**PHASE 1 - N. LAKEBELT STORAGE (NLBSA) (XX Ph1)**	03-04-2014	02-17-2023
MIP-1416	RE Acquisition XX Ph1	03-04-2014	05-27-2016
MIP-1417	Design XX Ph1	03-04-2014	02-27-2017
MIP-1418	P&S XX Ph1	02-28-2017	02-26-2018
MIP-1419	Construction XX Ph1	02-27-2018	02-17-2023
MIP 1.1.25.3	**PHASE 2 - NORTH LAKE BELT STORAGE (XX Ph2)**	07-07-2026	06-23-2036
MIP-1421	RE Acquisition XX Ph2	07-03-2029	07-01-2030
MIP-1422	Design XX Ph2	07-07-2026	07-01-2030
MIP-1423	P&S XX Ph2	07-02-2030	06-30-2031
MIP-1424	Construction XX Ph2	07-01-2031	06-23-2036
MIP 1.1.26	**CENTRAL LAKEBELT STORAGE PROJECT**	03-08-2011	11-14-2036
MIP 1.1.26.1	**CENTRAL LAKEBELT STORAGE PROJECT PMP, PIR**	03-08-2011	03-03-2014

SFWMD CERP UPDATE 1.0 Master Implementation Plan - Publish

Activity ID	Activity Name	Start	Finish
MIP-1426	PMP Development S	03-08-2011	09-02-2011
MIP-1427	PIR S	09-06-2011	03-03-2014
MIP 1.1.26.2	**PHASE 1 - CENTRAL LAKEBELT STORAGE PH 1 (S Ph1)**	03-04-2014	02-17-2023
MIP-1429	RE Acquisition S Ph1	03-04-2014	02-29-2016
MIP-1430	Design S Ph1	03-04-2014	02-27-2017
MIP-1431	P&S S Ph1	02-28-2017	02-26-2018
MIP-1432	Construction S Ph1	02-27-2018	02-17-2023
MIP 1.1.26.3	**PHASE 2 - CENTRAL LAKEBELT STORAGE PH 2 (S Ph2)**	07-02-2030	11-14-2036
MIP-1434	RE Verification S Ph2	07-02-2030	06-30-2031
MIP-1435	Design S Ph2	07-02-2030	11-22-2030
MIP-1436	P&S S Ph2	11-25-2030	11-21-2031
MIP-1437	Construction S Ph2	11-24-2031	11-14-2036
MIP 1.1.27	**EVERGLADES NATIONAL PARK SEEPAGE MANAGEM...**	06-13-2006	09-03-2013
MIP 1.1.27.1	**EVERGLADES NP SEEPAGE MANAGEMENT PROJECT PMP. PIR**	06-13-2006	09-08-2008
MIP-1439	PMP Development V, FF	06-13-2006	12-11-2006
MIP-1440	PIR V, FF	12-12-2006	09-08-2008
MIP 1.1.27.2	**L-31N SEEPAGE Management (V)**	09-09-2008	09-03-2013
MIP-1442	RE Verification V	09-09-2008	09-15-2008
MIP-1443	Design V	09-09-2008	09-03-2010
MIP-1444	P&S V	09-07-2010	09-02-2011
MIP-1445	Construction V	09-06-2011	09-03-2013
MIP 1.1.27.3	**S-356 STRUCTURE (FF)**	09-09-2008	08-30-2013
MIP-1447	RE Acquisition FF	09-09-2008	08-08-2011
MIP-1448	Design FF	09-09-2008	09-03-2010
MIP-1449	P&S FF	09-07-2010	09-02-2011
MIP-1450	Construction FF	09-06-2011	08-30-2013
MIP 1.1.28	**BISCAYNE BAY COASTAL WETLANDS PROJECT**	10-01-2001	12-11-2015
MIP-1452	PMP Development FFF/OPE	10-01-2001	03-29-2002
MIP-1453	PIR FFF, Biscayne Bay Coastal Wet lands OPE	04-01-2002	09-24-2004
MIP-1454	RE Acquisition FFF/OPE - Construction	09-27-2004	09-18-2009
MIP-1455	RE Acquisition FFF/ OPE - Operations	09-27-2004	01-06-2012
MIP-1456	Design FFF/OPE	09-27-2004	09-21-2007
MIP-1457	P&S FFF/OPE	09-24-2007	09-18-2009
MIP-1458	Construction FFF/OPE	09-21-2009	12-11-2015
MIP 1.1.29	**C-111N SPREADER CANAL PROJECT**	10-18-2000	03-11-2009
MIP-1460	PMP Development WW	10-18-2000*	09-19-2001
MIP-1461	PIR WW	09-20-2001	12-18-2002
MIP-1462	RE Verification WW - Construction	12-19-2002	12-24-2002
MIP-1463	RE Acquisition WW - Operations	09-15-2005	03-11-2009
MIP-1464	Design WW	12-19-2002	06-15-2005
MIP-1465	P&S WW	06-16-2005	06-14-2006
MIP-1466	Construction WW	06-15-2006	03-11-2009*
MIP 1.1.30	**SOUTHERN GOLDEN GATE ESTATES RESTORATION P...**	01-04-2001	11-14-2006
MIP-1468	PMP Development SGGEHR	01-04-2001*	05-25-2001
MIP-1469	PIR SGGEHR	05-29-2001	05-21-2002
MIP-1470	RE Verification SGGEHR	05-22-2002	05-28-2002
MIP-1471	Design SGGEHR	05-22-2002	11-18-2003
MIP-1472	P&S SGGEHR	11-19-2003	11-16-2004
MIP-1473	Construction SGGEHR	11-17-2004	11-14-2006
MIP 1.1.31	**FLORIDA KEYS TIDAL RESTORATION PROJECT**	04-02-2001	12-13-2006
MIP-1475	PMP Development FK Tidal Restoration	04-02-2001*	09-19-2001
MIP-1476	PIR FK Tidal Restoration	09-20-2001	12-18-2002
MIP-1477	RE Acquisition FK Tidal Restoration	12-19-2002	12-15-2004
MIP-1478	Detailed Design FK Tidal Restoration	12-19-2002	06-16-2004
MIP-1479	P&S FK Tidal Restoration	06-17-2004	12-15-2004
MIP-1480	Construction FK Tidal Restoration	12-16-2004	12-13-2006
MIP 1.1.32	**LAKE OKEECHOBEE ASR PILOT PROJECT**	08-10-2000	11-03-2009
MIP-1045	PMP Development LO ASR Pilot	08-10-2000*	03-15-2001
MIP-1046	Pilot Project Design Report LO ASR Pilot	03-23-2001	05-06-2003
MIP-1047	RE Verification LO ASR Pilot	05-07-2003	05-13-2003
MIP-1048	P&S LO ASR Pilot	05-14-2003	11-10-2003

SFWMD CERP UPDATE 1.0 Master Implementation Plan - Publish

Activity ID	Activity Name	Start	Finish
MIP-1049	Construction LO ASR Pilot	11-12-2003	11-07-2006
MIP-1050	Operational Monitoring LO ASR Pilot	11-08-2006	11-04-2008
MIP-1051	Pilot Project Technical Data Report LO ASR Pilot	11-05-2008	11-03-2009
MIP 1.1.33 CALOOSAHATCHEE (C-43) RIVER ASR PILOT PROJECT		04-02-2001	08-15-2008
MIP-1053	PMP Development Caloosahatchee R. ASR Pilot	04-02-2001*	11-16-2001
MIP-1054	Pilot Project Design Report Caloosahatchee R. ASR Pilot	11-19-2001	08-13-2004
MIP-1055	RE Verification Caloosahatchee R. ASR Pilot	08-16-2004	08-20-2004
MIP-1056	P&S Caloosahatchee R. ASR Pilot	03-17-2003	08-20-2004
MIP-1057	Construction Caloosahatchee R. ASR Pilot	08-23-2004	02-17-2006
MIP-1058	Operational Monitoring Caloosahatchee R. ASR Pilot	02-21-2006	02-15-2008
MIP-1059	Pilot Project Technical Data Report Caloosahatchee R. ASR Pilot	02-19-2008	08-15-2008
MIP 1.1.34 HILLSBORO ASR PILOT PROJECT		08-10-2000	04-30-2009
MIP-1061	PMP Development Hillsboro ASR Pilot	08-10-2000*	03-15-2001
MIP-1062	Pilot Project Design Report Hillsboro ASR Pilot	03-23-2001	08-19-2004
MIP-1063	RE Verification Hillsboro ASR Pilot	08-20-2004	08-26-2004
MIP-1064	P&S Hillsboro ASR Pilot	02-19-2004	08-19-2004
MIP-1065	Construction Hillsboro ASR Pilot	08-20-2004	06-15-2006
MIP-1066	Operational Monitoring Hillsboro ASR Pilot	06-16-2006	06-12-2008
MIP-1067	Pilot Project Technical Data Report Hillsboro ASR Pilot	06-13-2008	04-30-2009
MIP 1.1.35 LAKEBELT IN-GROUND RESERVOIR TECHNOLOGY PIL...		02-13-2001	09-02-2011
MIP-1069	PMP Development Lakebelt Tech Pilot	02-13-2001*	10-03-2001
MIP-1070	Pilot Project Design Report Lakebelt Tech Pilot	10-04-2001	10-04-2004
MIP-1071	RE Verification Lakebelt Tech Pilot	10-05-2004	10-08-2004
MIP-1072	P&S Lakebelt Tech Pilot	10-12-2004	10-07-2005
MIP-1073	Construction Lakebelt Tech Pilot	10-11-2005	04-06-2009
MIP-1074	Operational Monitoring Lakebelt Tech Pilot	10-12-2004	03-07-2011
MIP-1075	Pilot Project Technical Data Report Lakebelt Tech Pilot	03-08-2011	09-02-2011
MIP 1.1.36 L-31N SEEPAGE MANAGEMENT PILOT PROJECT		01-30-2001	06-12-2006
MIP-1077	PMP Development Seepage Management Pilot	01-30-2001*	10-05-2001
MIP-1078	Pilot Project Design Report Seepage Management Pilot	10-09-2001	01-06-2003
MIP-1079	RE Verification Seepage Management Pilot	01-07-2003	01-13-2003
MIP-1080	P&S Seepage Management Pilot	01-14-2003	01-12-2004
MIP-1081	Construction Seepage Management Pilot	01-13-2004	10-28-2004
MIP-1082	Operational Monitoring Seepage Management Pilot	01-14-2003	12-12-2005
MIP-1083	Pilot Project Technical Data Report Seepage Management Pilot	12-13-2005	06-12-2006
MIP 1.1.37 WASTEWATER REUSE TECHNOLOGY PILOT PROJECT		04-02-2001	11-01-2013
MIP 1.1.37.1 PART 1 - WEST MIAMI-DADE WW REUSE		04-02-2001	04-24-2009
MIP-1086	PMP Development West Miami-Dade WW Reuse	04-02-2001*	12-28-2001
MIP-1087	RE Acquisition West Miami-Dade WW Reuse	12-31-2001	06-28-2002
MIP-1088	Pilot Project Design Report West Miami-Dade WW Reuse	12-31-2001	12-27-2002
MIP-1089	Construction OPS Monitoring & EXP Facilities West Miami-Dade WW Reuse	12-30-2002	10-31-2003
MIP-1090	Operational/ Ecological Monitoring West Miami-Dade WW Reuse	11-03-2003	10-24-2008
MIP-1091	Water Quality Modeling West Miami-Dade WW Reuse	11-03-2003	10-24-2008
MIP-1092	Pilot Project Technical Data Report West Miami-Dade WW Reuse	10-27-2008	04-24-2009
MIP 1.1.37.2 PART 2 - SOUTH MIAMI-DADE WW REUSE		02-14-2002	11-01-2013
MIP-1094	PMP Development South Miami-Dade WW Reuse	02-14-2002	02-12-2003
MIP-1095	Pilot Project Design Report South Miami-Dade WW Reuse	02-13-2003	02-08-2006
MIP-1096	RE Acquisition South Miami-Dade WW Reuse	02-09-2006	08-09-2006
MIP-1097	Construction South Miami-Dade WW Reuse	08-10-2006	02-04-2009
MIP-1098	Operational/ Ecological Monitoring South Miami-Dade WW Reuse	02-05-2009	05-03-2013
MIP-1099	Water Quality Modeling South Miami-Dade WW Reuse	02-05-2009	05-03-2013
MIP-1100	Pilot Project Technical Data Report South Miami-Dade WW Reuse	05-06-2013	11-01-2013
MIP 1.1.38 ACME BASIN B DISCHARGE PROJECT		01-02-2002	04-25-2007
MIP-1311	PMP Development ACME Basin B	01-02-2002	07-01-2002
MIP-1312	RE Acquisition ACME Basin B	07-02-2002	04-27-2005
MIP-1313	Design ACME Basin B	07-02-2002	04-26-2004
MIP-1314	P&S ACME BASIN B	04-27-2004	04-25-2005
MIP-1315	Construction ACME Basin B	04-28-2005	04-25-2007
MIP 1.1.39 STRAZULLA WETLANDS PROJECT		01-02-2002	04-25-2007
MIP-1317	PMP Development Strazulla WPA	01-02-2002	07-01-2002
MIP-1318	RE Acquisition - Acquired Strazulla WPA	07-01-2002	

SFWMD CERP UPDATE 1.0 Master Implementation Plan - Publish

Activity ID	Activity Name	Start	Finish
MIP-1319	RE Acquisition - To Be Acquired Strazulla WPA	07-02-2002	04-27-2005
MIP-1320	Design Strazulla	07-02-2002	04-26-2004
MIP-1321	P&S Strazulla WPA	04-27-2004	04-25-2005
MIP-1322	Construction Strazulla WPA	04-28-2005	04-25-2007
MIP 1.1.40 HILLSBORO IMPOUNDMENT WPA PROJECT		01-02-2002	10-24-2007
MIP-1324	PMP Development M P1	01-02-2002	07-01-2002
MIP-1325	RE Acquisition M P1	07-02-2002	04-27-2005
MIP-1326	Design M P1	07-02-2002	10-29-2003
MIP-1327	P&S M P1	10-30-2003	10-27-2004
MIP-1328	Construction M P1	10-28-2004	10-24-2007
MIP 1.1.41 BROWARD COUNTY WPA PROJECT		01-02-2002	10-22-2008
MIP 1.1.41.1 WESTERN BROWARD IMPOUNDMENT WPA PROJECT PMP, PIR		01-02-2002	07-01-2002
MIP-1330	PMP Q, O, SS P1, R	01-02-2002	07-01-2002
MIP 1.1.41.2 WCA-3A & 3B LEVEE SEEPAGE MANAGEMENT (O)		07-02-2002	10-22-2008
MIP-1332	RE Acquisition O	07-02-2002	10-27-2004
MIP-1333	Design O	07-02-2002	10-29-2003
MIP-1334	P&S O	10-30-2003	10-27-2004
MIP-1335	Construction O	10-28-2004	10-22-2008
MIP 1.1.41.3 C-11 IMPOUNDMENT (Q)		07-02-2002	01-25-2006
MIP-1337	RE Acquisition Q	07-02-2002	04-30-2003
MIP-1338	Design Q	07-02-2002	04-02-2003
MIP-1339	P&S Q	04-03-2003	10-01-2003
MIP-1340	Construction Q	10-02-2003	01-25-2006
MIP 1.1.41.4 PART 1 - NORTH NEW RIVER IMPROVEMENTS (S-34 to C-6) (SS P1)		07-02-2002	10-22-2008
MIP-1342	RE Acquisition SS P1	07-02-2002	04-28-2004
MIP-1343	Design SS P1	07-02-2002	10-29-2003
MIP-1344	P&S SS P1	10-30-2003	10-27-2004
MIP-1345	Construction SS P1	10-28-2004	10-22-2008
MIP 1.1.41.5 C-9 IMPOUNDMENT (R)		07-02-2002	01-25-2006
MIP-1347	RE Acquisition R	07-02-2002	04-30-2003
MIP-1348	Design R	07-02-2002	07-02-2003
MIP-1349	P&S R	07-03-2003	12-31-2003
MIP-1350	Construction R	01-02-2004	01-25-2006
MIP 1.1.42 DADE-BROWARD LEVEE & CANAL WPA PROJECT		01-02-2002	04-22-2009
MIP 1.1.42.1 DADE-BROWARD LEVEE & CANAL & C-4 EASTERN STRUCTURE P...		01-02-2002	07-01-2002
MIP-1352	PMP Development BB, T	01-02-2002	07-01-2002
MIP 1.1.42.2 DADE-BROWARD LEVEE & CANAL (BB)		07-02-2002	04-22-2009
MIP-1354	RE Acquisition BB	07-02-2002	03-30-2005
MIP-1355	Detailed Design BB	07-02-2002	04-28-2004
MIP-1356	P&S BB	04-29-2004	04-27-2005
MIP-1357	Construction BB	04-28-2005	04-22-2009
MIP 1.1.42.3 C-4 EASTERN STRUCTURE (T)		07-02-2002	04-26-2006
MIP-1359	RE Acquisition T	07-02-2002	04-27-2005
MIP-1360	Design T	07-02-2002	04-28-2004
MIP-1361	P&S T	04-29-2004	04-27-2005
MIP-1362	Construction T	04-28-2005	04-26-2006
MIP 1.1.43 BIRD DRIVE RECHARGE AREA PROJECT		06-13-2006	12-01-2014
MIP-1364	PMP Development U	06-13-2006	12-11-2006
MIP-1365	RE Acquisition U	12-12-2006	12-07-2009
MIP-1366	Design U	12-12-2006	12-08-2008
MIP-1367	P&S U	12-09-2008	12-07-2009
MIP-1368	Construction U	12-08-2009	12-01-2014
MIP 1.1.44 ASR REGIONAL STUDY		10-01-2001	04-30-2010
MIP-2000	ASR Regional Study	10-01-2001*	04-30-2010

LITERATURE CITED

USACE and SFWMD. 1999. Central and Southern Florida Project Comprehensive Review Study, Final Integrated Feasibility Report and Programmatic Environmental Impact Statement. United States Army Corps of Engineers, Jacksonville District, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL.

USACE and SFWMD. 2001. CERP Master Implementation Schedule, Update 1.0. United States Army Corps of Engineers, Jacksonville, FL, and South Florida Water Management District, West Palm Beach, FL

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
3301 GUN CLUB ROAD, P.O. BOX 24680
WEST PALM BEACH, FLORIDA 33416-4680

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
3900 COMMONWEALTH BOULEVARD, MS 10
TALLAHASSEE, FLORIDA 32399-3000